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A GUIDE TO BETTER GARDENS

62.71

PORTLAND SEED & PET STORE

204 S.W. YAMHILL ★ PHONE ATWATER 3871

PORTLAND, OREGON

PEST-FREE GARDENS GROW BETTER CROPS

Insects annually attack home gardens and farms during the growing season of flowers and vegetables and ruin millions of dollars' worth of crops. However, this can easily be reduced if everyone will join hands with science and enter into the continual fight against agricultural pests.

To completely control insects it is necessary to have the proper equipment, follow instructions and above all, keep at it. This does not mean a large expenditure of money, it simply means to first get the advice of your local seed merchant and then buy the correct materials. For example: There are four classes of pests. An item that controls one group may have no effect on another. Therefore, you must first determine what you are fighting and then go after them. (See spray chart on pages 22-23.)

After the proper spraying or dusting material is selected it is very important that it is applied correctly. (See page 21.) This can be done most effectively and economically with a good spray pump or dust gun.

This year, enjoy beautiful flowers and healthy vegetables by planting Diamond Quality Seed and then protecting your garden with proper insecticides.

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ASTER CREGO ENCHANTRESS

All Americans

ASTER, ENCHANTRESS: This lovely Aster received Special Mention last year by the All America Board. Because of its exceptional beauty and the fact that we received more comment on this flower than any All American in the past, we are again featuring it on our Novelty page.

This variety offers an entirely new color in Asters. A luscious shade of lively Salmon Rose, distinct from all other colors yet developed. Both florists and home gardeners are delighted with it. The blooms are large and graceful. The plants are free flowering, branching and wilt resistant. They will bloom until late September. **Packet, 25c.**

MORNING GLORY, SCARLET O'HARA: A gold medal winner for 1939. The face of the flower is bright rosy red, and the five broad veins radiating from its throat in the form of five-pointed star are still more brilliantly colored with a tone of pure red almost approaching scarlet. The color is carried well down into the throat of the flower, and the very bottom of the throat inside is white. The outside of the throat is also white blending to a soft pink shade on the reverse of the veins, while the portion between the veins on the back of the flowers is bright rose. Flowers are large, 3½ to 4 inches across, and remain open longer than other Morning Glories, many being in full bloom in the late afternoon. The plants make excellent coverage for embankments and waste places, and are especially showy on stakes or poles.
Packet, 25c

SCABIOSA, IMPERIAL GIANT BLUE MOON: The flower form is as different from the existent Scabiosa varieties as Nasturtium Golden Gleam is different from the old singles. Instead of a flower composed of a few rows of broad petals surmounted by a flat pincushion-like top of small petals, this new type has flowers composed entirely of broad, heavy, wavy petals, eliminating the pincushion center entirely. In other words, is literally fully double. The blossoms are 2½ inches across and just as deep, about the shape of an old-fashioned beehive. The color is a rich deep lavender blue, a shade which maintains its effectiveness indoors or out. The plants will grow from 40 to 42 inches in height.
Packet, 25c

PHLOX GIGANTEA, SALMON GLORY: For years growers have been working to procure a good salmon Phlox. We now take pleasure in presenting Salmon Glory. The individual florets are gigantic of Phlox, measuring with ordinary field culture from 1¼ to 1½ inches in diameter. The color is a pure salmon pink with a distinct creamy-white eye. This combination with its clear, clean, crisp appearance, makes one of the most beautiful color combinations we have ever seen. Salmon Glory will prove one of the outstanding novelties of the year. **Packet, 25c.**

MARIGOLD, EARLY SUNSHINE: This is a Bronze Medal Winner, All America Trials for 1939. Ever since the introduction of Dixie Sunshine Marigold, a great need has been felt for a strain of Chrysanthemum Flowered Marigold with the same unusual and attractive flower form which would be early enough to be useful in the Northwest. Early Sunshine has the same attractive form as Dixie Sunshine, resembling small Chrysanthemums with their curled and interlaced florets, growing 2½ inches across and 1½ inches deep, and best of all, they are extremely early. Blooms 15 weeks after seed is planted. Plants grow 2 feet tall and produce their cheerful, bright lemon-yellow flowers most profusely. **Packet, 25c.**

RUSSELL LUPINS: Now these marvelously beautiful flowering plants may be had for a trifle. They grow most anywhere in ordinary garden soil, preferring sandy or gravelly soil. The enormous well rounded, long, symmetrical flower spikes are 3 feet long, 15 inches in circumference, a mass of gorgeous color, closely set with individual flowers, an inch across, that somewhat resemble Sweet Peas. All flowers on the spike, from top to bottom, open at one time, showing no stem. Flowers keep well when cut. **Packet, 25c.**

MARIGOLD—Red and Gold Hybrids

The flowers of Red and Gold Hybrids grow 2½ to 3 inches across. Some are solid red with a brilliance never before seen in Marigolds; others are delightful combinations of red and gold. The flowers vary in color according to season and even in different flowers on the same plant at the same time. At times they are almost pure golden-yellow and at other times bright rich mahogany-scarlet. In vividness and richness, the coloring is unsurpassed.

Red and Gold Hybrids are the liveliest colored and most outstanding of all Marigolds. They are extremely double and nearly three times the size of the largest double French Marigold. The petals are of such great substance that the flowers will remain in good condition on the plants for two to three weeks and equally as long in water when cut.
Packet, 25c

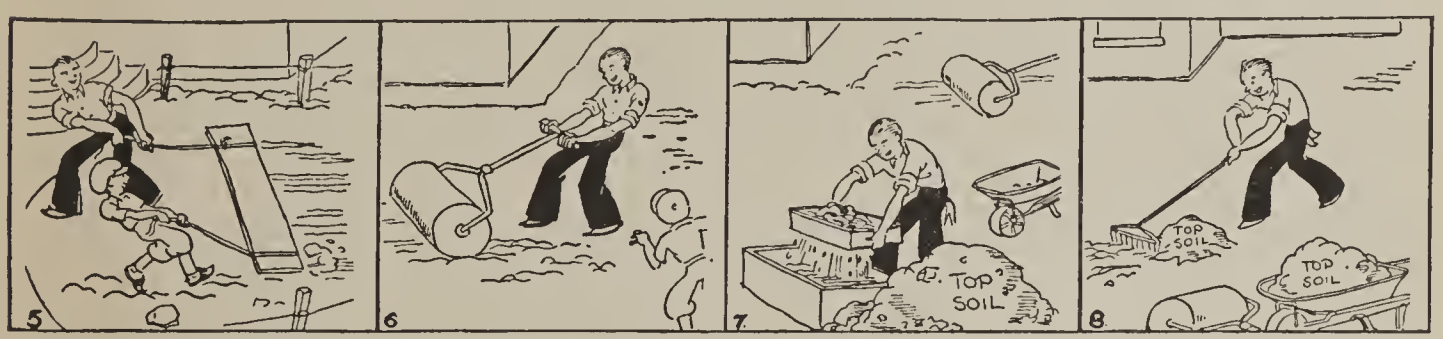
Johnny Jones Builds a Lawn

Now that his new house is erected and the outside workers are off the job, Johnny Jones is ready to start the preparatory work on his lawn in earnest.

During the excavation no under-soil was thrown out where the lawn was to be, but valuable top soil was saved and piled up at one side ready for later use.

The first step of construction he takes is to fork up the lawn area, rake it, break up earth clods and remove all rocks and debris not conducive to good grass growth.

He next considers his under-soil, and finding it too stiff and poor adds necessary lacking elements in the form of a liberal amount of sand and well-rotted strawy manure.



Taking the house steps as the fixed point for his grade he sets up grade stakes strung with stout cord and with Junior's help drags a flat board over the surface to level it.

He has a home-made lawn roller (made according to directions given in the Portland cement book) which he pulls lightly over the surface to compress the under-soil gently.

For his seed bed he spreads a top 2-inch layer of loam, using top soil saved from the excavation, screened together with humus supplied in the form of good dairy manure.

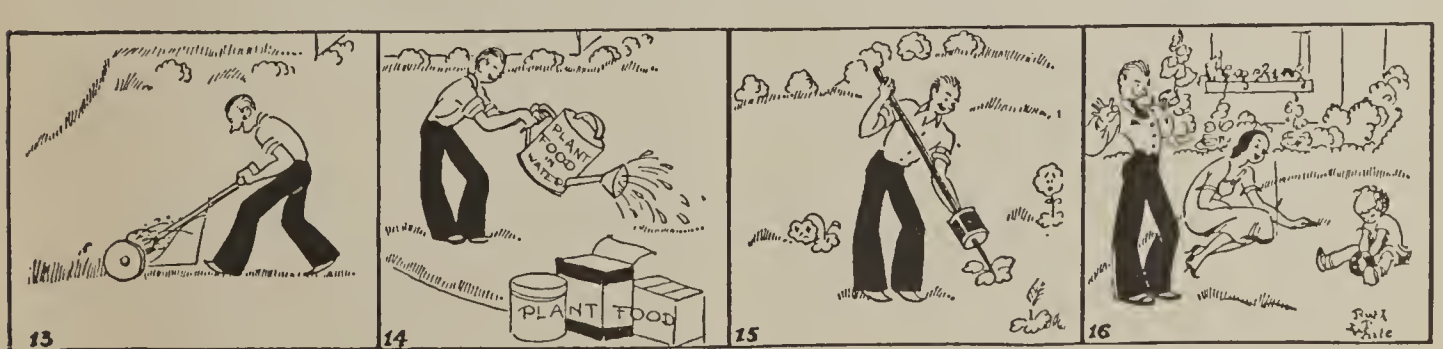
He rakes the seed bed finely, rolls it lightly a second time, allows it to weather so that weed seeds will germinate prior to seeding, and hoes out weeds as they spring up.

Quality grass seed is important. Jones buys his seed from the best store in town, knowing that they will give him the kind of mixture and the quantity he needs.

Being ready to sow, he divides up the area, apportions seed, and broadcasts in two directions, lengthwise and crosswise at right angles in order to cover completely.

After sowing, he carefully rakes in the seed with long light strokes so the tiny grass seed is well mixed with fine soil particles, and then lightly rolls it the third time.

To complete his planting, he waters thoroughly with light spray attached to his garden hose, being careful not to stand on newly seeded area, repeating this for several days.



When the grass is 3 inches high he mows it with a good five-blade mower, and thereafter weekly, being most careful that the mower does not drip oil on the lawn.

To keep maturing lawn conditioned he always waters as needed, and feeds the soil regularly with dependable commercial plant food applied as directed on the package.

He keeps a lookout for stray weeds—eradicating the few that appear with a patent weed gun. Having used good seed and reliable commercial plant food there are few weeds.

This picture of his family gathered to admire his fine lawn is a dream come true and is a fitting and adequate reward for any effort Johnny Jones has expended upon it.

SUNSET MAG.

Now About Fertilizer

All 11 Elements | No Phosphorus | No Potassium

No Nitrogen | No Calcium | No Magnesium

No Sulphur | No Iron | No Boron

AS, here, and usually understood, fertilizers include the so-called artificial, or chemically prepared, commercial fertilizers, but not manure, the latter being mostly of animal origin.

A complete fertilizer should theoretically contain all the plant food that could be derived from a perfect soil. But plants use so many different chemical elements and their compounds, and so many of them are present in more than adequate amounts in all soils, that a complete fertilizer is now understood to contain the three most essential elements only—nitrogen, phosphoric acid, and potash. It is upon these three, especially nitrogen, that the fertility of most soils depends, and all commercial fertilizers contain these substances in varying ratios, depending upon the crop and the soil to which the fertilizer will be added.

No one today needs to buy fertilizers blindly. They are forced to contain a specified amount of available nitrogen, phosphoric acid, and potash, and their claims are checked by the chemists of the Department of Agriculture.

The uninitiated, however, can still be misled, or can buy fertilizers wastefully, by not understanding exactly what the figures on a fertilizer bag means. It is, for instance, a common thing to see a bag labeled 4-12-4, or almost any other combination of three numbers separated by hyphens. Throughout the United States such figures always mean that the first figure is the percentage of nitrogen, the second the percentage of phosphoric acid, and the third the percentage of potash, in the mixture.

Many intelligent gardeners often ask why use commercial fertilizers at all, considering that it is only since the rise of industrial chemistry that they have been available. This is true, and if manure in sufficient quantities could be found, chemical fertilizers would not be needed. But the motor age and the passing of the horse have made animal manure rather scarce and really quite expensive when you consider the amount it takes in order to get the same results that a small amount of commercial fertilizer will give.

Before coming to specific fertilizer suggestions for different crops, it will make them more intelligible to understand and the role of the constituents.

NITROGEN. The most valuable, most expensive, and soonest exhausted of all fertilizer constituents. It is necessary for leaf growth and in general, all plant growth above the ground. Large amounts produce a rank, tender growth of a dark green color. The quickest-acting and most effective source of nitrogen is nitrate of soda. It is available almost as soon as applied to the ground as it dissolves at the first rain and is immediately available. Its disadvantage is that, once applied, it is soon lost (absorbed by the crop) and consequently builds up little or no residue of nitrogen for later crops. But other sources of nitrogen will supply this deficiency.

One of them is bone meal. This ground-up bone dust dissolves much more slowly than nitrate of soda and is consequently of value in small gardens, as top dressing for pots, frames, or for feeding house plants. And because of its slow action, it is safer to use than nitrate of soda, an overdose of which can easily injure or even kill a crop. Bone meal also contains much phosphoric acid.

Other valuable sources of nitrogen are tankage and dried blood. both prepared by-products of the slaughter houses, and, like bone meal, more useful for permanent enrichment than for quick effects. Calcium nitrate, sulphate of ammonia are also valuable sources of nitrogen.

PHOSPHORIC ACID. This, mostly supplied by rock phosphates and superphosphates, is, next to nitrogen in importance. Its especial function is the stimulation of cereal crops, but it is also absolutely necessary for most vegetable and flower crops. Many soils are deficient in phosphorus and the lack of it often slows up final crop production. Phosphoric acid causes the development of fibrous roots, increases disease resistance, and hastens maturity.

POTASH. The chief use of potash is the stimulation of root crops like beets, carrots, turnips, radishes, and parsnips. But as part of the balanced ration for perfect growth, potash must be a constituent of all fertilizer mixtures. It is used chiefly in the form of muriate of potash for vegetables, and sulphate of potash for potatoes. Wood ashes contain from 4 to 6 percent of potash.

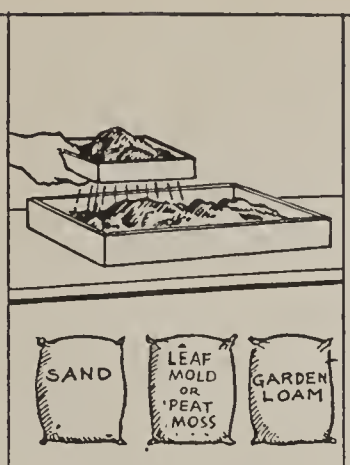
Potash is necessary for the formation of starch and its transference to various parts of the plant. It also increases resistance to disease. All crops require potash for proper growth, but it is especially valuable for cabbage, celery, and the root crops.

While different plants need different amounts of these three substances, only a "straights" (such as nitrate of soda) are applied alone, and this where special crops are being raised in soils definitely lacking in one element. Most fertilizers contain judicious mixtures of the three, hence the common advertising of so-called "complete fertilizers."

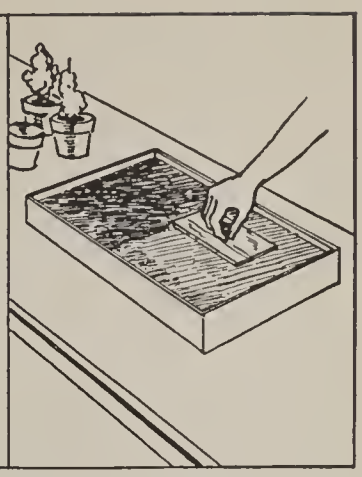
Starting Seed in Flats . . . .

It is economical to buy quality seed. Carefully read and follow the cultural directions printed on the packet to get the best results, for each plant has its own requirements.

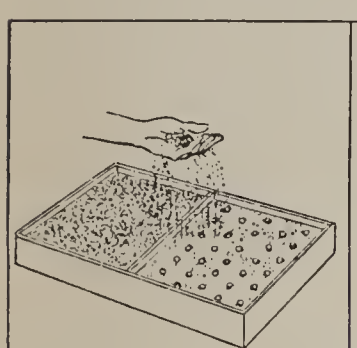
For soil drainage, break up old flower pots and cover the bottom of the seed box, in addition to boring holes in the bottom boards provided they are set with no space between.



Sift well-prepared soil composed of sand, leaf mold and good garden loam on top of drainage material through a fine-meshed sieve, filling box to about 1 inch of the top.

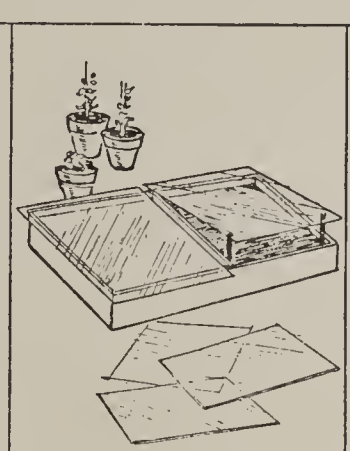


Firm the soil so it will not settle after water is applied by pressing down heavily on entire surface with a block of wood, making the surface perfectly level at the same time.

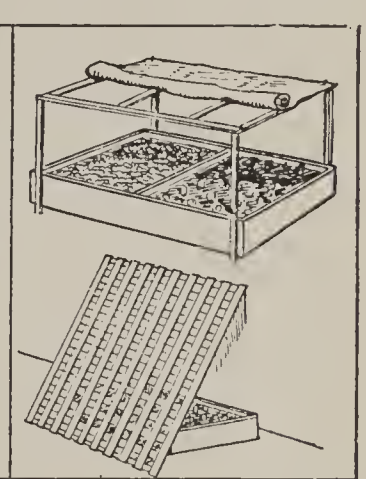


Scatter fine seed thinly over soil surface. Set large seeds down into the soil ¼ to ½ inch deep. Sift enough soil over the top of the seed box to lightly cover the seed.

Gently sprinkle seed flat by means of a fine spray so as not to dislodge the seed. Water thoroughly, then do not water again until soil surface shows indications of drying out.



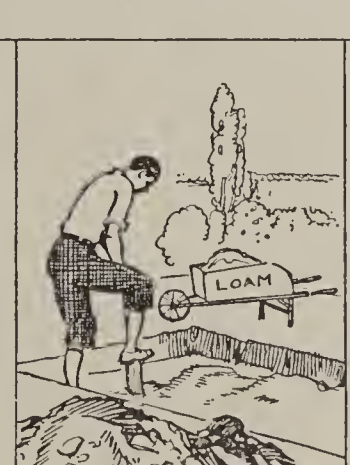
Cover seed flat with glass slightly tilted to provide plenty of ventilation. To aid germination a couple of thicknesses of newspaper can be put under glass till seed sprouts.



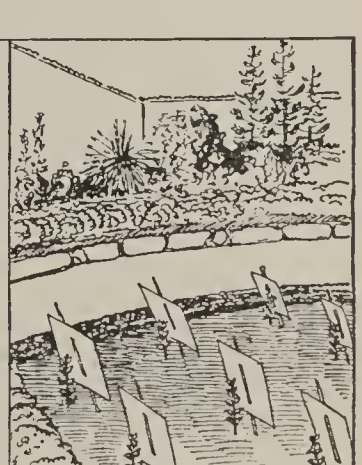
Set seed box where protected from direct sunlight, winds or downpour—in lath house, cold frame or under a tree. If set in the open, shade with burlap, muslin or lath screen.

After the seeds sprout, keep the flat free from weeds. Also, thin out the little plants just as soon as they begin to touch so they do not grow up tall and spindly.

When fourth leaf appears lift out the plants with a fork and transplant into pots or box, using a little richer soil. Harden off plants by gradual exposure to sun and air.



In about two weeks set plants out into a garden spot prepared in advance by removal of stones and replacement of some of the subsoil with good garden loam and fertilizer.



After planting, carefully water the plants, so soil packs about the roots, then shade them for a few days by means of plant caps, improvised cardboard shields or inverted berry boxes

SUNSET MAG

How to Transplant Shrubs

PROTECT A SHRUB BEFORE IT'S PLANTED. If you can, plant your shrubs right away, where they are to go. If this is not possible, dig a trench for the shrubs which come to you with their roots bare. This protection is needed to prevent exposure of the roots to the sun, or drying out.

The trenching is called "heeling in" and is nothing more than a temporary planting. The idea is to cover the roots and keep them moist. Sometimes shrubs will dry in transit, in which case you had best bury them, tops and all, for several days in moist earth.

Dig the trench about two feet or more deep, and two feet wide. Put the shrubs in upright as if you were planting a hedge, but don't crowd them. Shovel the soil loosely around them without packing, and then hose them thoroughly until there are puddles. This watering will make new fiber form.

When you are ready to plant them in their final home, you'll find that they lift out easily; but even so, handle them with care.

DIGGING A SHRUB'S HOME. Dig the ground deeply, throwing the top soil into one pile, and the poorer undersoil into another. Dig a hole large enough, both in depth and diameter, 15 to 20 inches deep, to allow the shrub to spread its roots. With your fork, break up the bottom of the hole to allow good drainage.

When you fill in, after setting the shrub in place, use as much of the topsoil as you can, more around the roots than at the surface. If your topsoil is heavy or poor, mix it with sand and peat moss.

PLANTING BARE ROOT, BALLED AND BOX SHRUBS. The nursery will prepare different shrubs in different ways, according to the requirements of their root systems. Some will come with bare roots, others with roots in a ball of earth and burlap wrapped around the ball, others in boxes.

Before planting a bare-root shrub, prune back its roots, then set it upright in its hole with care, spreading the roots in all directions. After that you just shovel loose topsoil around the roots, fill up not quite to the top, and tamp. With practically all bare-rooted plants, prune back at least one-third of the top growth in order to encourage a strong root system.

With a balled shrub, do not break the ball, but set the shrub, ball and all, down into its hole. Fill in loose earth around it, and when partly so filled, cut the string at the top, pull back the top of the burlap covering, and continue covering with soil.

When a balled shrub is received from the nursery, immerse the ball in water so that the roots will have had a thorough soaking before the shrub is planted.

CARE AFTER PLANTING. First, prune the branches, even heavy pruning is wise. This balances the loss of roots which always happens when a plant is dug up for transplanting. Also, after planting, water often. When the shrub is well established, give it some commercial plant food (the directions will be on the package). In general, for all shrubbery, and trees, too, fill up the hole about three-quarters full of soil, using as much topsoil as you can. Flood with water until the water comes up to the top, let it settle; then flood again.

WHEN TO TRANSPLANT. There are two kinds of shrubs—evergreen and deciduous. "Deciduous" means that the plant looses its leaves and grows them again. Evergreen stays green. Deciduous shrubs should be moved in the fall or before the leaves grow in the spring. Moving at other times requires extra care. Midwinter or fall are best along the Coast; the roots have more time to grow and get used to their new home before the summer heat comes. Inland, in the cold parts of the valleys and mountain regions, transplant only in the spring. You may experiment with fall transplanting there if you put a good mulch around the plants to keep the ground from freezing down to where the roots go. One way of doing this is to wrap the tops with burlap for protection from the winds in the winter. At the base put straw or manure, and soil on top of that.

How to Grow Roses

A rose garden should be placed in full sun and away from sides of buildings. Roses like best a heavy soil with good drainage. Before the roses arrive, prepare the ground by removing the first foot of soil and breaking up the remaining subsoil. Into this subsoil work plenty of compost and plant food and then replace the top soil. When the plants arrive, unless the rose has been pruned at the nursery, cut back. Cut off also any bruised or tangled roots and plant immediately. Dig a hole for each rose big enough to accommodate roots without twisting. Firm soil gently and water. Do not let plant food touch the roots. Never water roses by sprinkling—it causes mildew. During flowering and growing periods keep roots cool and damp. Water by flooding a depression around the bush. Peat moss is an excellent mulch. Here on the Pacific Coast hybrid teas are pruned every year between December and February. First remove all the weak and scraggly growth from around the base. Shorten the remaining canes by removing about ¾ of the previous year's growth. Make cuts slanting, cutting about ¼ inch above leaf buds. Use good sharp tools.

Flower Planting Guide

An understanding of the natural adaptation of certain plants to certain purposes is necessary for successful planting. Too many failures are the result of trying to grow shade-loving plants in full sun, acid-loving plants in limestone regions and swamp-margin plants on dry hillsides. A little study of plant requirements will obviate losses, and improve the vigor and naturalness of the plant groupings. Some of the most common types of plants, with suggestions as to various situations in which they can be used, follow.

Annuals

Annuals are particularly useful to the home-gardener who wishes to have a great display of bloom for small expenditure. As they are grown each year from seeds, and bloom the same season, they are particularly valuable for the new garden in which perennials have not had time to become established. They also bloom most prolifically in midsummer when blossom effect from perennials is relatively sparse. Longer-lived plants which are grown as annuals are treated here as such.

FOR SUN AND DRY SOIL. Most annuals like full sun, and a few are particularly useful for hot, dry locations where the midsummer sun bakes out most other plants:

- Portulaca
- California Poppy
- Shirley Poppy
- Zinnia

FOR PARTIAL SHADE. Some which will thrive and sometimes bloom longer in partial shade include:

- Nasturtium
- Snapdragon
- Pansy
- Sweet William
- Balsam
- Clarkia
- Nemophila
- Annual Stock

FOR CUTTING. Annuals are prolific and constant in bloom and vary widely in color and size, so they naturally become the chief reliance in the cutting garden or border. Those particularly useful in view of their ease of growth and long season of bloom are:

- Snapdragon
- Calendula
- Coreopsis
- Cosmos
- Larkspur
- California Poppy
- Gypsophila
- Ageratum
- Heliotrope
- Sweet Pea
- Gaillardia
- Zinnia
- Blue Laceflower
- Annual Chrysanthemum
- Aster
- Marigold
- Clarkia
- Lupine
- Verbena
- Nasturtium
- Annual Phlox
- Salpiglossis
- Marigold
- Stock

FOR CONTINUOUS BLOOM. Annuals which reach flowering size in a short period may be given several sowings, 2 or 3 weeks apart, during the summer. These include:

- Gypsophila
- Cornflower
- Poppy
- Phlox
- Coreopsis
- Candytuft
- Mignonette

Sweet Alyssum and Edging Lobelia may be cut back to produce later bloom.

FOR WINDOW AND PORCH BOXES. As the plants in boxes must usually be replaced each year, the use of annuals here is inevitable.

For center of box—

- Zinnia
- Marigold
- Blue Salvia

To trail over edge—

- Sweet Alyssum
- Verbena
- Petunia
- Thunbergia
- Lobelia

ANNUAL VINES: These offer an excellent group of plants for covering unsightly fences or walls quickly, or for filling bare spots against a new house or fence while the flower perennial vines are becoming established. The most interesting of the annual vines are:

- Morning glory—
  - HeavenlyBlue
  - Scarlet O'Hara
- Moonflower
- Scarlet Runner Bean
- Canary Bird Vine
- Cardinal Climber
- Gourds—mixed
- Nasturtium—tall mixed

Perennials

Perennials are those plants that bloom annually, their roots lasting from year to year. Many may be grown from seeds; others are propagated by division of existing roots or by cuttings. They include many of our finest garden flowers and have the advantage of needing less yearly attention than annuals, in order to yield a succession of bloom from early spring until frost. Most flowering plants need sun, and except for those listed for shade, perennials should have at least a half day's full sun.

TO INSURE SUCCESSION OF BLOOM (In order of blooming season):

- Bleeding Heart
- Columbine
- Peony
- Phlox
- Oriental Poppy
- Japanese Iris
- Delphinium
- Aster
- Chrysanthemum

FOR SHADE. Few of our garden perennials will succeed in dense shade. Where no sun penetrates, the list must be restricted largely to those plants which are native to thick woodlands. Where there are two or three hours of sun, or flickering shade from trees, certain of our garden favorites will bloom satisfactorily.

Dense Shade

- Lily-of-the-Valley
- Trillium
- Violets (native species)
- Plaintain Lily

Semi-Shade

- Japanese Anemone
- Foxglove
- Bleeding Heart
- Primrose

For Light, Poor Soil

- Gaillardia
- Flax
- Lupine
- Iceland Poppy
- Moss-pink Phlox
- Yucca

For Heavy Clay Soil

- Tiger Lily
- Perennial Pea
- Siberian Iris

FOR CUTTING. Perennials form an important part of the well-established cutting garden. Many may also be cut from the border to induce further bloom. Among those that are useful especially as cut flowers are the following:

- Japanese Anemone
- Aquilegia
- Shasta Daisy
- Lily-of-the-Valley
- Coreopsis
- Delphinium
- Peonies
- Sweet William
- Baby's Breath
- Helenium
- Coral-bells
- Iris—all species
- Gold-banded Lily

EASILY GROWN FROM SEED. While some perennials are most satisfactorily increased by division or cuttings, others are easily grown from seed. A few will bloom the first year if seed is sown early indoors. The rest can be counted on for flowers the second summer. Among those thus easily raised from seed are the following:

- Golden Marguerite
- Aquilegia
- English Daisy
- Shasta Daisy
- Delphinium
- Digitalis
- Gypsophila
- Candytuft
- Regal Lily
- Iceland Poppy
- Oriental Poppy
- Balloon-flower
- Salvia

ASTER AURORA GOLDEN SHEAF
Packet 10c

Asters

ASTERS are among the most useful decorative late summer plants for the amateur home gardener. They are easy to grow, require only normal care and give an abundance of flowers in return for the care given. In warm sections, seed can be sown directly in the garden after frost time. Here in the Northwest they should be started in flats indoors and the plants set out about the middle of May or thereabouts.

Asters like a rich soil, preferably rather sandy or loamy. They should be cultivated regularly and watered before the soil becomes too dry. Each plant must have plenty of space to develop fully without being crowded. The tall branching varieties should be set about 15 to 18 inches apart, each way, and the medium growing sorts 10 to 12 inches apart, while the dwarf types can be as close as 8 to 10 inches.

Few, if any, important flowering plants are as seriously attacked by disease as the Aster. The most important of these diseases is the Aster Wilt.

Aster Wilt or stem rot is caused by a specific parasitic fungus. The disease is soil borne, meaning the fungus lives in the soil and is transmitted to the Aster plants from the soil. The fungus enters the plant through the root system, and gradually creeps up the stem through the vascular tissue and will eventually destroy the food and water bearing channels of the plant. When once introduced into the soil, the fungus persists indefinitely and may attack Aster plants which are growing there even years later. The spores of the fungus may be disseminated on Aster seed, on implements used in working the soil, or on anything which comes in contact with a diseased plant. It is, therefore, very evident that the wilt disease is widespread wherever Asters have been grown. So far, there is no known method of combating this disease, except by the use of wilt resistant seed.

Aster Super Giants are the latest development in the Aster field. The plants are robust and strong growing, 2½ to 3 feet tall with six or eight long, non-lateral stems per plant. The flowers are extremely large, as much as 6 or 8 inches across, with numerous long, graceful feathery interlacing petals. Their full shaggy effect has been likened to some of the looser varieties of Chrysanthemum. So far there are only two colors in the group. Los Angeles, a lovely soft shell pink, blending to creamy pink in the center. **Packet, 10c.** El Monte, a deep glowing crimson, the only large flowered crimson Aster on the market. The later variety is an earlier bloomer and is therefore suitable for planting in all localities. **Packet, 10c.**

The Improved Crego Wilt Resistant type is probably the best known of all Asters and is the most generally used. All varieties of this type are wilt resistant. The plants are about 2½ feet tall, branching in habit with long, strong stems, making the flowers well adapted to cutting as well as for garden use. The blossoms are good size, 4 to 5 inches across, fluffy, with numerous long, slender, curly tipped petals, full centered and of good substance. *We offer the following varieties: white, shell pink, deep rose, crimson, orchid, azure blue, purple, lavender, peach blossom and mixed.* **Packets, 10c**

The Improved Giant California Sunshine type is the highest development in its class, rightly called the most beautiful Aster in the world. The flowers, 4 to 5 inches across, are among the loveliest of all Asters, composed of a single row of loosely placed outer petals, contrasting with the unique quill-like center discs. The stems are long and extremely heavy, practically without lateral branches, while the plants are from 2 to 3 feet in height. They are mid to late season blooming. None of the varieties have been developed in wilt resistant strains. *We offer the following varieties: white, pink, lavender, violet, carmine and mixed.* **Packets, 10c.**

The Improved Giants of California curled and interlaced Aster. Plants are somewhat taller than the Super Giants and carry a few lateral branches. They reach a height of about 3 feet and usually carry from 8 to 10 or even 12 flowers per plant. The flowers are large and full, 4 to 5 inches across, with graceful, curly tipped petals. Late bloomers so seed should be started early indoors in flats. *We offer the following varieties: white, peach blossom, light blue, deep rose, dark purple and mixed.* **Packets, 10c.**

The Improved Queen of the Market are somewhat different from the old original strains. They have been developed for use as cut flowers as well as for border work with the result that the stems are comparatively long, about 10 to 12 inches, and strong. The plants are about 18 to 20 inches tall and bear generous quantities of medium sized, 2½ to 3-inch flowers. *We offer the following varieties: white, light blue, deep rose, scarlet, purple, peach blossom and mixed.* **Packets, 10c.**

Other types of Asters listed under Annuals and Perennials. Page 18.

AGERATUM: (hA) Small balls of color in sizeable clusters. Constant bloomer from spring to fall. Culture—likes rich, light, well fertilized loam. Combines with Columbines, Scabiosa, Delphinium, French Marigold, Salpiglossis. *Varieties: Tall Blue Perfection, 2 ft. tall; Blue Perfection, medium blue, large flowers semi-dwarf; Little Dorrit, white, dwarf; Little Dorrit, light blue, dwarf.* **Packets, 10c.**

ALYSSUM: (hA) White, sweet scented edging and basket plants. For borders sow thickly. Grown best in rich, light, well fertilized loam. Combines with Violets, Forget-me-nots, Gypsophila. *Varieties: Benthami Martimum, white sweet scented—1 ft.; Little Gem, white—6 inches; Lilac Queen, lavender—6 inches; Dwarf, white—3 inches; Gold Dust (saxatile compactum) perennial, yellow—1 ft. Procumbens (Carpet of Snow).* **Packets, 10c.**

AMARANTHUS: (hA) Does well in hot sunny places. 1-2 ft. tall, Related to Cockscomb. Grown for the vividly colored foliage and showy flower clusters. Does best in moderately rich light soil *Position*—plant in borders in front of shrubbery. *Varieties: Caudatus (love lies bleeding) crimson drooping flower spikes, tall. Joseph's Coat (tri-color) red, yellow and green foliage. Tall. Mixed Shades.* **Packets, 10c.**

CALENDULA CHRYSANTHA

CALENDULA *(Pot Marigold):* (hA) Does well in sunny or partial shade. Hardy, stout growing, with entire bright-green, thickish leaves. Continual bloomer. Grows in any soil, but responds to moderately rich loam. *Grouping*—for bedding out; in front of shrubbery; for the mixed border, combining with Delphinium, Shasta Daisy, Salvia or Alyssum. *Varieties: Chrysantha, buttercup yellow with incurved petals; Orange Shaggy, deep orange shading to lighter center; Radio, deep orange with quilled petals; Balls Gold, golden yellow, light center; Balls Orange, bright orange shades; Campfire, deep orange with scarlet sheen; Lemon Queen; Double Mixed.*
Packets, 10c

CALLIOPSIS: (hA) Graceful for border plants, supplying throughout the summer an abundance of showy flowers of: yellow, crimson and maroon. Tall varieties excellent for cut flowers. Grows in any soil, but prefers a rich, light well fertilized loam. *Grouping*—with Coreopsis, Deep-blue Delphiniums, Snapdragons and Salvia. *Varieties: Tall Single Mixed; Tall Semi-Double Mixed; Dwarf Crimson King, deep crimson with yellow backs; Drummondi (golden wave) golden yellow center; Dark Brownish Red. Gold Crest.* **Packets, 10c.**

CANDYTUFT: (hA) Very showy, branching plant. Excellent for beds, masses, rock gardens and cut flowers. Blooming prolifically in spring, and during other seasons by successive sowing of seed. Grows in ordinary soil. *Varieties: Coronaria, giant white hyacinth flowered; Umbellata Type, crimson, lilac, rose, cardinal, white, flesh pink, rose carmine and mixed.* **Packets, 10c.**

CANTERBURY BELLS: (hB) The real bell flower. Branching plants heavily loaded with large pendant bells. Both in plain and cup and saucer types. Excellent for flower borders and rockery background. *Grouping*—with Scabiosa, Perennial Aster and Lupine. *Varieties: Campanula Medium; single mixed, double mixed. Calycanthema, (cup and saucer); light blue, dark blue, white, rose pink and mixed. Annual Mixed,* blossoms from seed in less than six months. **Packets, 10c.**

CHRYSANTHEMUM: (hA) Attractive long-stemmed summer flowering plant, wide varieties of color. Sow seed in flats and transplant when soil is warm. Height from 1 to 2 ft. *Grouping*—used in the annual and mixed borders, combining with orange and yellow flowers, or massed alone. *Varieties: Coronarium, tall double yellow; Tall double lemon; Tall double mixed; Carinatum, single mixed.*
Packets, 10c

CLARKIA *(Rocky Mountain Garland):* (hA) Grows from 12 to 18 inches tall and does well in sunny or light shade. Branching, erect plant, with smooth, light-green leaves. Furnishing an abundance of cut blooms as well as attractive green foliage. Grows in ordinary light garden loam. *Grouping*—plant with Larkspur, Pansies, Nicotiana or Virginia Stocks. *Varieties: Scarlet Queen, Salmon Queen, Fireband, Brilliant, also Single and Double Mixed.* **Packets, 10c.**

COLUMBINE *(Aquilegia):* (hP) Erect, branching plant, with long, slender stems. Will thrive in almost every situation, preferring partial shade and considerable moisture. Should be sprayed often to prevent aphis. *Groupings*—with Delphinium, Perennial Candytuft, Scabiosa, Stocks and Snapdragons. *Varieties: Mrs. Scott Elliott (long spurred*—**pkt. 15c**), *Pink Shades* **(15c)**, *Blue Shades* **(15c)**, *Silver Queen* **(15c)**, *Copper Queen* **(15c)**, *Double and Single Mixed,* **packet 10c.**

COREOPSIS *(grandiflora):* (hP) A spreading plant, with long, smooth, dark green lanceolate leaves; large, daisylike, golden yellow flowers. Plants grow from 1½ to 2 ft. Drought resistant; grows in any soil but best in moderately fertilized, light loam. *Grouping*—Blue Cornflower, Blue Salvia, Delphinium and Blue Larkspur. *Varieties: Double Sunburst, large golden yellow fully double; Lanceolata, golden yellow semi-double.* **Packets. 10c.**

DIGITALIS—FOX GLOVE

DIGITALIS *(Fox Glove):* (hP) 4 to 6 feet tall. Best in semi-shade, but will grow in sun. Long spikes that are crowded with large thimble-shaped blossoms beautifully spotted. Grows in any soil, but prefers a rich, well fertilized, light garden loam; harbors sow bugs and snails. Work Naphthalene in soil around the plants. *Grouping*—in perennial border, alone or grouped with Hollyhock, Canterbury Bells, Shasta Daisy, Poppies, etc. *Varieties: Purple, Rose, White and Mixed.* **Packet, 10c.**

DELPHINIUM *(perennial Larkspur):* (hP) 1 to 8 feet, according to species and kinds. Sun loving but endures slight shade. Blooms freely from May until late fall. Grows in a variety of soils, but prefers rich, well drained, rather light soils, fertilize with manures during growing period, complete plant food during blooming period; peat or leaf mold should be added to heavy soil, bone meal also helpful. *Grouping*—Columbine, Salpiglossis, Snapdragons, Stocks and Gladiolus. *Varieties: Wrexham Hollyhock Strain* **(15c)**; *Gold Medal Hybrids* **(15c)**; *Blackmore and Langdon Strains* **(35c)**; *Bellamosa, dark blue; Belladonna, light blue; Finest Mixed.* **Packets, 10c.**

GAILLARDIA *(Blanket Flower):* (A&P) 1 to 2 feet and spreading. Sun loving, but endures slight shade. Free blooming from early spring until late autumn frost. Gray-green, lobed, variable leaves with large daisylike flowers. Very hardy, tolerating most soils, avoid fertilizer containing too much nitrogen; drought resistant, growing well on sandy banks. *Grouping*—plant in mixed border with dark blue Delphinium, russet Snapdragons, Salvia or Chrysanthemums. *Varieties: (Perennials) Dazzler, maroon red, golden yellow; Portola Hybrids and Mixed. (Annuals) Lorenziana, double mixed; Single Mixed.* **Packets, 10c.**

GEUM: (hP) 18 inches tall. Best in sun, but tolerates some shade. Hardy plants, with rosette formation of large, rough, strawberry-like leaves; long flower stalks, bearing double roselike flowers. Sow seed in early fall or early spring, produces blooming plants in one year. Grows well in most light soils; attacked by soil pests, use Naphthalene Flakes in soil. *Grouping*—looks well with tall Lobelia, Michaelmas Daisy and Salvia. *Varieties: Mrs. Bradshaw, scarlet; Lady Stratheden, golden yellow; Mixed.* **Packets, 10c.**

COSMOS: (hA) Furnish an abundance of cut blooms during the early flower season. Seed sown in the open ground in April should bloom in July. Transplant not less than 18 inches apart. Pinching out tops when plants are a foot high makes them bushy and sturdy. Grow best in moderately rich, sandy loam. *Grouping*—Plant between shrubs; in the background of mixed border, combining with Shasta Daisy, Lavender, Poppy and Regal Lily. *Varieties: Orange Flare, deep orange blooms early; Klondyke, orange; Early Double Crested (anemone flowered), pink beauty, white queen and mixed; Early Flowering Mammoth, light pink, crimson, white and mixed.* **Packet, 10c.**

CARNATION: (tP) Grows from 1 to 1½ ft. Easily winter killed, should be sown in flats during March. Transplant to other boxes when plants are 1 inch high, transfer to open soil when ground becomes warm. Carnations are best planted by themselves. *Varieties: Chabaud Double Giant, cardinal red, deep rose, flesh pink, white, mixed. (Annual) Marguerite, blooms four months from sowing, in mixed shades only.* **Packets, 10c.**

GODETIA *(Satin Flower):* (hA) Grows from 1 to 2 feet tall in sunny or slightly shady places. Erect, slender branching plant; bright green, lanceolate leaves; large, expanded, single and double, satiny flowers. Seed should be sown in flats, transplanted when soil is warm. Grows in rather poor, sandy soil. *Grouping*—generally looks best alone, can be combined with Clarkia, Larkspur, certain Snapdragons and Stocks. *Varieties: Dwarf rose, crimson, pink and mixed. Tall Double Azalea Flowered carminea, crimson, lavender, rich pink and mixed.* **Packets, 10c**

GYPSOPHILIA *(Baby Breath):* (hA) These light airy plants have a hairlike foliage and produce a very lovely effect in the garden. Excellent with bouquets. Sow seed outdoors in early spring, repeat sowings for longer season of blooms. Thrive in moist moderately rich soil. Does well in rockeries. *Varieties: Grandiflora Alba, true white; Grandiflora Rosea, pink; (Perennial) Paniculata Alba, single white.* **Packets, 10c.**

DIAMOND SWEET PEA COLLECTION

SPECIAL

90c VALUE

NINE SEPARATE COLORS

50c

HELICHRYSUM (*Monstrosum*): (hA) Strawflower, growing from 2 to 3 feet tall. Stout branched plant, with oblong-lanceolate, bright-green, stiff leaves. This hardy annual makes an excellent winter bouquet with its red, yellow and white flowers. Sow in the open and transplant or thin out to twelve inches apart. Should be transplanted in separate bed by themselves. *Varieties: Golden Ball; Scarlet Ball; Salmon Queen; Silvery Queen; Canary Yellow; Violet Queen; Rose Carmine; Crimson; Double Mixed.* **Pkts., 10c**

HOLLYHOCK (*Althaea*): (hP) Grows 6 to 12 feet in sun or partial shade. Erect plants with spirelike, simple, hairy stems; large, rough, heart-shaped leaves; large, regular, round blossoms of various bright colors. Grows in any soil, enrich with sheep manure. Subject to rust. Control rust with fine dusting sulphur. *Grouping*—The stately Hollyhock is appropriate along walls, lattice fences, etc. Excellent when interspaced among shrubs. *Varieties: Double salmon rose, maroon, rose pink, scarlet, yellow and mixed. Single mixed. (Annual) Single Mixed.* **Packets, 10c.**

LARKSPUR: (hA) Grows from 3 to 4 feet in sun and light shade. Erect, bushy plants, with light green, finely dissected leaves. Flowers quickly form after plant is once established. Seed can be successfully sown in early spring. For earlier blooms, plant in flats and transplant. Prefers a rich, well fertilized soil. Use a complete plant food. *Grouping*—Blue Lace Flower, Hybrid Delphiniums, Clarkias, Snapdragons and Candytufts. *Varieties: Giant Imperial Daintiness, lavender, White Spire, Lilac Spire, Blue Spire, Blue Bell, Carmine King and Miss California, deep rose on salmon. Exquisite Rose Pink and Mixed. Tall Double Flowered, bright rose, light blue, dark blue, white, La France (salmon pink), Los Angeles (brilliant pink) and mixed.* **Packets, 10c.**

LARKSPUR

LOBELIA: (hA) Grows 6 to 12 inches in sun or light shade. Trailing, or compact, bushy plants; variable, dark-green, bronzed, or light-green leaves. Irregular, small, tubular flowers, borne on slender pedicels, varying from light to dark blue. Excellent for borders, rock work and hanging baskets. For best results sow thinly in flats, covering with glass until seedlings are through soil. Transplant into a moist, well fertilized bed. *Grouping*—Gold Tuft, Iceland Poppy, Coreopsis, Siberian Wallflower and Pot Marigold. *Varieties: Crystal Palace, dwarf dark blue; Gracilis, light blue trailing; Sapphire, dark blue, white eye, trailing.* **Packets, 10c.**

MIGNONETTE: (*Reseda*): (hA) A branching plant, growing 6 to 10 inches high, with dark-green, spatulate leaves; close-set, spike-like racemes of very fragrant flowers, blooming normally in August, but also in other seasons. Can be grown easily from seed and should be planted in rich light loam. *Grouping*—this plant does exceedingly well with practically all annuals. Should be planted in places where color is needed. *Varieties: Odorata Grandiflora, white; Victoria Perfecta, brilliant red.*

Packets, 10c

MORNING GLORY: (hP) Plant in a sunny place. Grow from 6 to 18 feet, with slender climbing or twining stems. Variable, lobed or parted leaves with long, funnel-shaped flowers. A constant bloomer from June until September. Seed should be notched if hastened germination is desired. Does best in strong, fertilized soil with plenty of water. Plants should be cut down each fall for new growth. *Grouping*—should be planted separately for covering garages, fences or pergolas. *Varieties: Major Tall Mixed; Japanese Fringed Mixed, Clarks Mammoth Blue, sky blue shading to yellow in throat.*

Packets, 10c

GOURD: A name formerly applied to the plants and fruits of any species of the Gourd Family (Cucurbitaceae), including pumpkin, squash, cucumber and melon. It is now restricted (in N. America) to the ornamental, inedible-fruited species of cucurbits, of which the following are most popular: the yellow-flowered varieties; the white-flowered ones, to which also belong the dishcloth, mate (or utensil gourd of Paraguay), the calabash and some of the serpent or snake gourds; wax or white gourds; gooseberry gourds; hedgehog gourds; cranberry gourds; and ivy gourds. The true calabash is not a gourd, but the fruit of a tropical tree of the Bignonia Family.

All these gourds are tender annuals, either trailing or climbing by means of tendrils. They thrive in the full sun, in well drained, rich soil. Usually the seed is sown where the plants are to remain, but sometimes, to save time, it is started on inverted sods or in small flower pots, the plants being set outdoors after danger of frost has passed. The plants are rapid-growing and, having good foliage, are often planted for summer screens to be trained on trellises or strings against porches facing south. Powdery mildew frequently appears as a white coating on the leaves. To control it, dust with fine sulphur. For other diseases and insect and control measures see your seed dealer. The ripe fruits of many small varieties are of odd shapes and markings so are often used as curiosities or ornaments. *Varieties: Large Calabash, Dipper, Turk's Turban, Bicolor Pear Shape.* **Pkt., 10c.** *Mixed,* **Pkt., 5c.**

MARIGOLD CROWN OF GOLD

Marigold

THE African and French Marigolds are truly the amateur gardener's best friend. They are both hardy and colorful, which makes them ideal for all types of garden work. The Marigold usually begins to flower in the early part of July and continues to give out a succession of blossoms until the branches are destroyed by frost. When judiciously planted they add considerably to the gaiety of any flower bed, especially during the later months of the flowering season. The tall African Marigold is excellent when used as a background for medium-tall flowers of red and pink shades, or displaying its golden corollas among the evergreen shrubbery. While the more richly painted petals of the French Marigold is well calculated to contrast with the blue or purple varieties of Asters, since no plant displays a richer coloring of mahogany and gold.

These showy annuals may be raised by sowing seed in the open garden as soon as the soil is warm, but the more certain method of procuring fine plants is to sow the seed in flats or hot beds about the first of April. While the plants are developing in the flats they should have plenty of air circulation and moisture. When the young seedlings have reached a growth of about 6 inches and the soil has had an opportunity to warm up, they should be transplanted to their position in the garden.

During the past few years several new, outstanding varieties of Marigolds have been developed and we highly recommend several of these types for Northwest gardens. Growers have at last overcome the one poor feature of these beautiful flowers. Namely, odor!

See All Americans for other Marigolds.

Marigold Crown of Gold. The plants of the Collarette Marigold Crown of Gold are absolutely uniform in every respect, including such desirable characteristics as height of plant, general habit of plant, time of flowering, and character, size, shape, and color of flower heads.

Individual plants deviate very little from the average height of twenty-four inches. The lower branches are clustered near the ground level, while the higher branches are sub-opposite or alternate on the main stem. The principal stem runs through the plant and determines its ultimate height. The lower-most lateral branches are ascending, but are only about three-fourths the length of the main stem so that the plant assumes a top-shaped habit. The plants are extremely floriferous, which gives to a plant in full bloom the appearance of a large orange top with a green base.

Seeds sown out of doors in the spring develop into plants that begin to bloom in July, and continue blooming until they are killed by frost.

Packet, 10c

Dixie Sunshine Marigold occupies a sure place in the group of new Marigold types. It is a most charming and unique strain. The medium sized flowers, 2 to 2½ inches across, are fully double and ball-shaped, ingeniously composed of dozens of tiny five-petaled florets which are gracefully interlocking and daintily fringed in effect. The brilliant golden yellow color is well set off by the lush green foliage of the bushy, rather tall plants. **Packets, 10c.**

Double Royal Scot French Marigold. As modern in appearance as any flower now offered, Royal Scot is one of the most striking color combinations one could wish for. The large, well-formed double flowers are produced in abundance on plants from 24 to 30 inches in height, fine for garden or cutting. Color is a bold combination of mahogany and gold in symmetrical stripes. **Packets, 10c.**

Guinea Gold Marigold. While this type cannot be classed as a newer variety, its popularity and loveliness gives it special mention. The flowers are a gorgeous orange with loosely ruffled petals. The plants are free bloomers and practically all flowers are double. **Packet, 10c.**

Dwarf French Single: Diadem, mahogany red; Gold Star, yellow striped maroon; Legion of Honor, little brownies; Signata Pumila, very dwarf bright orange; Mixed colors. **Packets, 10c.**

Dwarf French Double: Golden Ball, golden orange; Lemon Ball, lemon yellow; Robert Beist, dark brownish maroon; Mixed colors. **Packet, 10c.**

Tall French Double: Royal Scot and Mixed colors. **Packet, 10c.**

Tall French Single: Josephine, brown.
Packet, 10c

Tall African Double: Orange; Lemon, Mixed.
Packet, 10c

Nasturtiums

GLORIOUS GLEAM Hybrid Nasturtiums have taken the plant world by storm. Delightfully sweet scented, beautifully double and in a remarkable color range, they fulfill all requirements for an all-round garden favorite. The color range includes a brilliant blend of salmon, golden yellow, orange scarlet, cerise, cream, orange, maroon and crimson shades, as well as many spotted varieties. **Packet, 5c.**

Golden Gleam Nasturtiums, the first of the newly developed double, sweet scented nasturtium and by far the most popular. These plants are semi-dwarf, bearing the flowers well above the light green foliage on long, wiry stems. The flowers are especially fine for both garden and cutting. **Packet, 5c.**

Scarlet Gleam Nasturtium is now fully double and will come true to color. The flowers are large and full petaled, waved and fluted in effect, and extremely showy. Completely covering the foliage of the plant, the long stemmed orange scarlet flowers make a dazzling splash of color. Richly sweet scented, Scarlet Gleam is ideal for garden and cutting. **Packet, 10c.**

For those who still prefer the good old fashioned type, we offer the dwarf mixed and tall mixed. **Packet, 5c.**

DOUBLE GLEAM NASTURTIUM

PHLOX DRUMMONDI: (A&P) Plants growing from 6 inches to 3 feet, according to type. Creeping and erect forms, smooth or pubescent. Leaves variable; salver-shaped flowers in bright colors, blooming in spring, summer, or early fall, according to kind. Perennial Phlox should be kept moist during the dry season, mulch with peat moss or leaf mold during winter and summer. Cut plants back after flowering season. Annual Phlox prefers a somewhat moist, light, porous soil, containing gritty material. Goes well with Verbenas, Petunias, Gypsophila and Snapdragons. *Varieties: Chamois Rose, carmine eye; Crimson; Scarlet; White; Isabellina, pale yellow; Art shades; Mixed; Star Phlox and Dwarf Mixed. Decussata Perennial Mixed Phlox.* **Packets, 10c**

PANSIES *(Viola Tricolor):* (hA) A low-growing border and bedding plant, best with sun and moderate shade. Bushy plant, with oval or heart-shaped leaves. Irregular, fragrant, spurred, flat-petaled flowers in many colors, blooming from March into fall. Seeds should be sown in late August for early blooming, in spring for late spring and summer blooming. Spring sown seeds should be planted in flats and transplanted just before blooms appear. Pansies should grow in light, sandy or peaty, well fertilized, moist soil; provide mulch for winter protection. Use Naphthalene Flakes for protection against soil pests. *Grouping*—in separate bed or with Alyssum, Columbine, Yellow Snapdragons, Iceland Poppy, etc. *Varieties: P.S.C. Super Giant Swiss Mixed* **(20c)**; *P.S.C. Growers' Special Mixed* **(20c)**; *Oregon Giant Mixed; Adonis, light blue with white center; Cornflower Blue; Giant Dark Blue; Giant Striped; Golden Queen, pure yellow; King of the Blacks; Madam Perret, dark wine pink with red frilled petals; Snow Flake, pure white; Violet Blue, dark blue; Master Piece, giant ruffled.* **Packets, 10c.**

PINKS *(Dianthus):* (A&P) Grows from 10 to 14 inches high, and bears beautifully colored single and double blossoms in profusion all summer. For best results seed should be sown in flats and transplanted when soil is warm. Largely used for borders or massed in beds. Excellent for cut flowers. *Grouping*—can be planted in separate beds or with Snapdragons, Delphiniums, Stocks, Carnations, Sweet Williams and Petunias. *Varieties: (Annuals) Chinensis, flowers produced in clusters, single and double mixed; Heddewigi Double, Fire Ball scarlet, Salmon King deep pink, Snow Ball, white, Mixed; (Perennial) Clove Pinks, Pheasant's Eye single mixed, Pheasant's Eye double mixed, Single Mixed and Double Mixed.* **Packets, 10c.**

SALVIA: (hA) 1 to 3 feet. Should be planted in a sunny location. Erect, branching plants, with variable leaves and irregular, tubular flowers, blooming in summer or fall. Will grow in ordinary soils, fertilize with sheep manure. Best with background of shrubs having dark-green, glossy leaves. *Groupings*—Plant with yellow Lupine, yellow Snapdragons, Calendulas or deep blue Delphiniuin. *Varieties: Bonfire, clear red; Splendens, brilliant scarlet, Zurich, dwarf early mixed.* **Packets, 10c.**

PORTULACA *(Rose Moss):* (hA) An exceptionally fine flower for dry sunny spots where most plants are unable to thrive. A dwarf plant only 6 inches in height and blooms profusely from early spring to late summer. Brilliant colors of: Red, yellow, pink, white, and striped. Sow seed indoors and transplant at early spring warmth. *Varieties: Single Mixed and Double Mixed.* **Packet, 10c.**

PRIMULA *(Primrose):* (hP) A favorite for growing outdoors in mild climates and very fine for potting, flower baskets and window boxes. *Varieties: Malacaides, light lilac and mixed; Kewensis, golden yellow.* **Packet, 15c.**

PHYSALIS *(Chinese Lantern):* These plants will add a bit of Oriental touch to your garden. Its lacquer red blooms have much gaiety and charm. If planted among Gyposphila (Baby Breath) you will have a beautiful growing bouquet. *Variety: Francheti.* **Packet, 10c.**

DOUBLE FRINGED PETUNIA

Petunias

THE garden petunias are very popular tender annuals, widely used for bedding, window boxes, pot plants, or for the border. They are all best treated as tender annuals, the seed started indoors or in the greenhouse 7 to 8 weeks before the plants are to be put outdoors. This should not be done until warm weather is settled. Nearly all the strains are summer bloomers and will stand no frost. Those who do not wish to start the plant indoors can sow seed (after frost time), but such plants will be delayed in flowering.

Unfortunately, petunias, while often self-sown in some of the strains, are quite likely to revert to a wild type, so that self-sown seedlings are pretty sure to deteriorate. It is advisable to weed out these second growth Petunias and reseed each year with fresh seed.

Petunias require a rich, light, well fertilized soil, however, the fertilizer should not be applied until after the plants are established, then use a good complete plant food. A liberal amount of peat moss or leaf mold, or both, should be worked into the bed before planting. When setting out transplants be careful to avoid the direct sun as tender Petunia plants will wilt rapidly.

Petunias have enjoyed great popularity in recent years, and the focus of interest lately has centered on the dwarf growing, compact types, of which the new Martha Washington ushers in an entirely new version. The plants are about nine inches tall, in a perfect ball effect, actually covered with dozens of the delicately ruffled medium-sized flowers. The color itself is an interesting combination, blush pink at the edges, deepening to dark violet in the throat, with heavy veining. It comes exceedingly true to color and type, and is excellent for use as a bedding, border or window box plant. **Packets, 15c.**

Miniature Petunias Rose Gem and Pink Gem. These two charming types have filled a vacancy home gardeners have had for years. Where a low, solid bed of color is needed nothing does quite as well as these two varieties of miniature petunias. The plants are neat and compact, 5 to 6 inches in height and smothered with richly colored blossoms about 2 inches in diameter. Rose Gem **(15c)**; Pink Gem **(10c).**

Giants of California are the largest of the single flowering petunias. The flowers are completely ruffled with large, graceful throats. Excellent in beds by themselves or grouped with Dwarf Lobelia. Mixed colors. **Packets, 15c**

Dwarf Giants of California are a compact form of the above. Especially fine for potting and also go well in a bed with the taller variety. *Light Blue, Dark Blue and Mixed Dark and Light.* **Packet, 15c.**

Varieties: Bedding Petunias; Balcony Blue; Balcony Rose; Balcony White; Rose of Heaven; Rosy Morn; Single Mixed. **All Packets, 10c.**

Taller varieties of Petunias: Elks Pride, deep purple, **25c;** *City of Portland, pink,* **25c;** *General Dodds, blood red,* **25c;** *Dainty Lady, delicate golden yellow,* **25c;** *Double Choice Mixed,* **25c;** *Double Fringed Mixed,* **35c;** *Flaming Scarlet,* **25c;** *Burgundy,* **25c.**

POPPY (*Papaver*): (A&P) Flowers growing from 6 inches to 4 feet, according to type. Erect plants, with usually hispid, coarsely toothed, pinnatifid leaves. Small to large globular, brightly colored flowers, blooming in spring and summer. Perennials are planted in fall and annuals in early spring. All types require a well drained, moderately rich, light loam, not too much moisture. *Grouping*—Effective by themselves, or grouped in a mixed border with yellow and orange Snapdragons, Lobelia, tall, Violas, etc. *Varieties: (Annuals) Shirley, double mixed; Carnation Flowered, tall double mixed; American Legion, single brilliant orange; Flanders, single blood red; California Poppy (Aurantiaca), orange. (Perennials) Elmonte Tangerine, orange; Oriental Mixed.* **Packets, 10c**

SALPIGLOSSIS *(Painted Tongues):* **(hA) 1 to 2½** feet in height and should be planted in a sunny place. Erect plants, with oblong, wavy-toothed, dark green leaves. Large, tubular, velvety textured, lily-like flowers in bright and gaudy colors, blooming from early June into fall. Seed may be sown in outdoor beds but best results are obtained from starting in flats. Requires a rich, light, well fertilized, well drained loam. *Grouping*—Impressive in front of dark-green foliage, and in mixed borders with Salvia, Lobelia, Siberian Wallflower, stocks. *Varieties: Brown and Gold; Scarlet and Gold; Violet and Gold; Purple and Gold; Rose and Gold; Crimson and Gold; Yellow; Mixed.* **Packets, 10c.**

SCABIOSA (*Pincushion Flower*): (hA) 1½ to 3 feet tall. To be planted in sun or semi-shade. Bushy plants with divided foliage and dense heads of irregular flowers, blooming in spring, summer and fall according to type. Seed can be sown outdoors, but earlier blooms can be had if started in flats. Grows well in ordinary soils, but favors well fertilized, somewhat sandy loam. *Grouping*—combine with Ageratum, Snapdragon, Perennial Phlox, Sweet Williams and Stocks. *Varieties: Azure Fairy, blue; Peach Blossom; Fire King, scarlet; Flesh Color; King of the Blacks; Loveliness, pink; Double Mixed. (Perennials) Japonica, lilac.* **Packets, 10c.**

Snapdragons

Snapdragon is the common name for the popular Antirrhinum, a member of the figwort family, comprising a dozen or more species of erect perennial herbs that are usually treated as annuals, as they flower from seed the first year. From the original type with its white to purplish, sac-like, two lipped flowers, hybridists have developed a number of strains outstanding in beauty of form, color and even fragrance.

Seed should be sown indoors in March or April. It may be slow in germinating but after the true leaves have formed the growth is usually rapid. The small plants can be transplanted to the open as soon as danger of frost is over; they will flower from July until frost if the blossoms are picked as soon as they fade. Seed may also be planted in the open in August, and the seedlings transplanted to pots for winter bloom, or the plants can be covered with a mulch over winter to give earlier summer flowers.

To encourage the growth of flower-bearing side branches, the central bud should be pinched out when transplanting; followed by occasional pinching of other too-vigorous shoots, this will result in a compact oval plant covered with short racemes of flowers.

RUST PROOF SNAPDRAGON

Rust, the most serious snapdragon disease, is found all over the United States on both greenhouse and outdoor plants. Dusty, chocolate-brown pustules (spore masses) are produced on the under side of the leaves and on the stems. Weekly applications of a good dusting sulphur during the rainy periods and fortnightly applications in dry weather will effectively control rust if a start is made early in the season. Keep sulphur off the flowers when in bloom. All Diamond Quality Snapdragons are of the newer Rust-Proof Strain and if Diamond Quality seed is used you need not worry about the rust disease.

Snapdragons may effectively be grouped with Scabiosa, Gladiolus, Larkspur, Delphinium, Clarkia and Chrysanthemum. *Varieties: Majus Rust Proof varieties, Butter Cup, canary yellow; Copper Shades; Pink Shades; Scarlet; Shasta White; Fiery Red and Mixed colors.* **Packets, 10c.**

SCHIZANTHUS: (*Poor Man's Orchid or Butterfly Flower*): (hA) Grows 1 to 1½ feet, and should be planted in sunny places. Erect, slender branched with bright green, finely divided leaves. Butterflylike flowers that are varicolored and blotched in many colors. Seed should be sown in early spring in rich, well fertilized, sandy loam. *Grouping*—excellent in masses; for the mixed border, combining with Gysophila, Virginia Blue Bells and Gerbera. *Varieties: May Blossom, rose pink; Brilliant Mixed.* **Packets, 10c.**

STOCKS: (*Gillyflower*)s (hA) Grows from 1 to 2½ feet tall, depending on type. Prefers sun with slight shade. Stiff and branching plants with smooth, bright green, oblong leaves. Blossoms are very fragrant, coming in small single or large double varieties, depending on type. Plant in well drained, rich, light loam; fertilize with complete plant food; pinch back young plants; plant close together, rogueing out single flowered plants later, if undesired. Use peat moss in preparing bed. *Grouping*—Very effective alone, or combined with Sweet Sultan, Violas and Pansies, Snapdragons, Daffodils, Tall Marigolds. *Varieties: Double Early Giant Imperial, rose; Elks Pride, purple; Canary Yellow; Blood Red; White and Mixed. Double Perfection Branching: Princess, white; La France, pink; Brilliant, blood red; Sapphire, violet; Creole, canary yellow; May Queen, pale blue; Rose Pink and Mixed. Virginia Stocks: Rose, Mixed. Evening Scented Stocks Mixed.* **Packets, 10c.**

SWEET WILLIAM (*Dianthus Barbatus*): (hP) 10 to 20 inches in height. Prefers sun or light shade. Forming a dense mat of light to dark green, often colored leaves, and dense, round headed cymes of hairy-petaled, medium sized flowers, blooming over a long period. Their large color range makes them excellent for cut flowers. *Grouping*—Useful as border plants and in mixed borders, combining, according to color with Snapdragons, Delphiniums, Stocks, Carnations, Phlox and Petunias. *Varieties: New Port Pink; Scarlet Beauty, orange red; Dark Crimson; White; Single Mixed and Double Mixed.* **Packets, 10c.**

VERBENA: (hhP) Perennial, usually treated as an annual. Grows 6 to 8 inches but exceedingly spreading. Requires plenty of sunshine. Densely branching, with dark green, wrinkled, dissected leaves. Dense cluster of medium sized, salver-shaped flowers. Blooming from May often into winter. Grows in any type of soil, but best in rich, light, moderately fertilized loam. *Grouping*—Fine border plant; in parkings; foreground of shrub border; in the mixed border, combining with Petunias, Shirley Poppies, rose and red Snapdragons and Stocks. *Varieties: Golden Queen, golden yellow; Scarlet Defiance, orange red; Pink Shades; Blue Shades; White; Mixed.* **Packets, 10c.**

WALL FLOWER (*Cheiranthus Cheiri*): (hsP) Half shrubby perennial growing from 2 to 3 feet. Sun loving, but endures a little shade. Woody plant, with ribbed stem and dark green lanceolate leaves. Medium sized, mustardlike flowers in dense clusters. Seed in early fall and early spring. Grows in most types of soil but prefers well fertilized, light loam. *Varieties: (Perennials) Cheiranthus Cheiri, yellow shades; Siberian Wall Flower, brilliant orange (for rock plants); (Annuals) Blood Red; Paris Market, brown; Mixed; Double Early Wonder Mixed.* **Packets, 10c**

ZINNIA FANTASY

Zinnias

ZINNIAS are of the easiest culture, thriving in almost any soil and under almost all conditions. While they respond readily to special treatment, they will also thrive under the most adverse conditions. It is this characteristic which makes them especially valuable in the hot, torrid regions of the Southwest and those sections which have lately been experiencing unusual conditions of drought. Natives of Mexico, they are happiest in the hot, dry conditions characteristic of their land of origin.

While seedling plants of Zinnias can be transplanted, they do best when the seed is sown directly in the soil where the plants are to flower. Never sow your Zinnia seed, however, until the soil is warm and danger of low temperatures is past. This would probably be from the 10th to 15th of June during normal years. For best results, provide a rich, deep soil and give water when needed. For the fullest development of the plant, the Giant types should be no closer than 18 inches apart each way, and the smaller growing kinds 10 to 12 inches apart. This will allow free branching for sturdy plant development, and will assure the production of large, well formed double flowers.

Zinnias are very fast growing annuals during the summer months and successive sowings can be made all through the summer and as late as the first of August.

Fantasy Zinnia is the most recent introduction and the best known in the semi-tall type. The plants are about 2½ to 3 feet in height, neat in habit, strong growing and very free flowering. The flowers are very informal in appearance, composed of a mass of shaggy, ray-like petals, which give a delicate, graceful effect, quite distinct from the stiff formal Zinnias to which we are accustomed. They are rounded in shape, of medium size, around 2½ to 3 inches, carried on good strong stems, and are excellent keepers. Fantasy is available only in a Mixture of lovely colors. **Packet, 10c.**

The California Giant strain is, in some ways, a companion type to the Dahlia Flowered. The plants are, however, taller than the Dahlia Flowered, reaching a height of 3 to 4 feet, with longer, strong stems, which are particularly adapted for use as a cut flower. The flowers themselves are very large and well formed, with a smooth topped, graceful appearance, the petals lying flat upon each other. We offer the following varieties: *Cerise Queen; Lavender Gem; Rose Queen; Violet Queen; Grenadier, dark red; Golden Queen; Daffodil, canary yellow; Orange Scarlet King; Purity, white; Brightness, bright pink; Enchantress, light rose; Salmon Queen; Golden Orange Queen; Scarlet Queen; Mixed.* **Packet, 10c.**

The Dahlia Flowered type comes first to mind under the tall large flowered varieties. Plants in this group are strong and robust growing, about 3 feet tall, and bear many long stems of the showy, double, huge flowers, which closely resemble the Show type of Dahlia. This type is preferred for general garden use, producing a very brilliant mass of color, in bright, intense shades. The plants, however, are rather stocky and the stems not quite as long or as well adapted for cutting as the California Giant group. The flowers, themselves, are more or less cup-shaped in appearance; the petals, instead of lying flat upon each other, are incurved, producing an upstanding, stiff, somewhat coarse flower. The blooms, when well grown, will reach a diameter of six and sometimes seven inches. The general average, however, would be 4½ to 5 inches. Flowers are produced within about sixty days from time of planting. We offer the following varieties: *Exquisite, light rose; Golden State, golden yellow; Crimson Monarch, deep crimson; Dream, rosy lavender; Scarlet Flame; Oriole, orange; Meteor, true red; Polar Bear, white; Old Rose; Canary Bird; Purple Prince; Old Gold; Mixed.* **Packet, 10c.**

Lilliput or Pompon Zinnia, sometimes known as the Baby Zinnias. It is among the most popular for cut flower use and is steadily becoming more popular as a garden variety. The flowers are small, compact and symmetrical in shape, 1 to 1½ inches in diameter, borne in great quantities on neat, compact growing plants which usually reach a height of from 12 to 15 inches, but which may be forced in semi-shade or in the greenhouse to a height of 2 to 2½ or even 3 feet. Lilliput Zinnias have been found to be especially effective when used in combination with other flowers. We offer the following varieties: *Salmon Rose; Canary Yellow; Rosebud; Scarlet Gem; Crimson Gem; Golden Gem; Lilac Gem; White Gem; Pink Gem; Mixed.* **Packet, 10c.**

Cut and Come Again of Pumila Dwarf Double type is one of the oldest double Zinnias known. It was the first really double Zinnia developed from the early single forms and has retained a certain amount of popularity ever since. Plants are about 12 to 18 inches in height. Flowers about 2 inches in diameter, well adapted for use as a cut flower. We offer the following varieties: *Crimson; Pinkie; Golden Orange; Salmon Rose; White; Mixed.* **Packet, 10c.**

Sweet Peas

Sweet Peas are essentially cool weather plants, and they quickly fade away if the temperature persists for long above 75. In the sea-cooled areas of the Pacific Northwest, sweet peas can be grown successfully throughout the summer. An early start is highly important. The plants must be well established before hot weather arrives, but if the heat is extreme and persistent, nothing will keep the plants growing vigorously, though it is possible to carry the plants through July and even later if a cheese-cloth shading is erected over the plants.

There are two methods of culture or training, natural and exhibition. The former gives quantities of fair-sized flowers on medium stems. All the laterals are allowed to remain, except that it is sometimes advantageous to cut back the leading growths when they harden, and allow the younger growths to carry on. When once the vines become woody, short-stemmed flowers are certain. Exhibition or cordon growing means fewer but giant flowers, sometimes as many as five and six, on stems 18 inches long. This system is not, however, worth while unless climatic or other conditions permit the plants to grow well into summer, as the finest flowers cannot be obtained until the plants attain a height of 4 feet or more. The plants should be planted 9 inches or so apart and allowed to carry two or three main growths. All side shoots or laterals that appear in the leaf-axils must be pinched out, leaving only the flower buds that likewise appear in the leaf-axils. So treated, the plants, if conditions permit, grow 8 feet or more, but can be kept down to a reasonable height by training. Exhibition plants need constant attention and much tying, especially if bamboo stakes are used for supporters. To insure continuous flowering, no seed pods should be allowed to develop.

GIANT RUFFLED SPENCER SWEET PEAS

Packet, 10c; 1 oz., 35c, postpaid

Pink and Cream

Fluffy Ruffles. Light cream pink.
Ascot. Clear light rose pink.
What Joy. Large, primroses, shaded to cream.
Pinkie. Large flowers in fours. Deep rose pink.
Mary Pickford. Cream pink, faintly tinted salmon.
Magnet. Rich cream pink.
Winnie Morse. Cream ground, lightly flushed rose pink, duplexed frilled.
Bon Bon. Rich pink.

Red and Maroon

Welcome. The most dazzling of all scarlets.
Charming. Brilliant, rosy cerise.
Flamingo. Orange scarlet cerise.
Sybil Henshaw. Giant. Deep crimson.
Doreen. Huge, bright, rose carmine.
Warrior. Rich oxblood maroon.

Orange and Salmon

Barbara. Beautiful shade of orange salmon.
Good Cheer. Charming begonia rose.
Gloriosa. Bright, orange scarlet.
Idyl. Giant flowers in fours. Salmon pink. Waved.
Royal Pink. Large, pure pink.
Celebrity. Brilliant orange.
Tangerine Improved. Rich salmon orange.
Pirate Gold. Deep golden orange.

Lavender, Blue and Mauve

Austin Frederick Improved. Pure lavender.
Powerscourt. Clearest lavender.
Fortune. Rich, dark blue.
Gleneagles. Lavender blue.
Olympia. Giant, rich purple.
Reflection. Clear cornflower blue.
Chieftain. Pure satiny mauve (deep lavender).

White and Picotee

Youth. Pure white edged soft pink.
Avalanche. Giant, pure white.
Standard Spencer Mixed. A splendid mixture, containing many of the varieties in our general list of Spencers. **Packet, 5c; ounce, 20c. Postpaid.**

Inoculate all Sweet Pea Seed with
NITRAGIN
10c Packet Treats 4 lbs. Seed

EARLY FLOWERING SPENCER SWEET PEAS

Packet, 10c; 1 ounce, 45c. Postpaid.

Apollo. Soft salmon cerise.
Early Marine. The clearest true blue of all sweet peas. An extremely vigorous type.
Early Columbia. Lovely rose standard with light pink wings. Distinctive color and heavy cropper.
Early Giant Rose. Truly the best rose variety. Warm rose pink. Splendid form with extreme size of flower.
Early Harmony. Very popular clear lavender with large flowers, vigorous growth and fine color.
Early Oriental. Clear deep cream colored variety with black seeded center. Bears exceedingly wavy blooms.
Early Silver Blue. The color is described by its name. A beautiful shade of light silver blue.
Shirley Temple. Soft rose pink.
Early Snowstorm Improved. Clear white blooms. Giant frilled flowers on long sturdy stems.
Early Apollo. Extremely long stems, bearing fine bold flowers of soft salmon cerise.
Early Vulcan. Vivid sun-proof scarlet. The most outstanding and best known early red.
Early White Harmony. Glistening pure white with vigorous long stems and large blossoms. The ideal florist variety.
Early Pride. A lovely deep cerise, beautifully tinged with scarlet. Even brighter than "Glitters".
Early Spring Song. Bright rose pink flushed salmon. The most brilliant cream pink and very popular.
Early Flowering Spencer Mixture. A well blended mixture, containing all of the above colors and additional shaded. **Packet, 10c; 1 ounce, 35c. Postpaid.**

Other Varieties of Annuals

Aster, American Giant Branching; mixed colors, double flowers, long stems.

Aster, Heart of France; red, 2 feet tall, good stems.

Aster, Early Wonder; white, light blue, dark blue, rose, crimson, mixed.

Aster Mum; like Chrysanthemum, white, rose, lavender, mixed.

African Daisy *(Arctotis);* red and orange shades, 1 foot tall.

African Lilac Daisy *(Arctotis Grandis);* grows 3 feet tall.

Acroclinium *(Everlasting Straw Flower);* double mixed.

Balloon Vine *(Love in a Puff);* fine climber, white blossoms, bears pods.

Balsam *(Lady Slipper);* double blossoms, pink, scarlet and mixed. 2 ft.

Bachelor Button, Jubilee Gem, Blue Boy.

Blue Lace Flower *(Oidieus);* blue, grows 3 feet tall.

Browallia *(Amethyst);* Excellent for window boxes. Mixed colors.

Brachycome *(Swan River Daisy);* mixed colors.

Bartonia *(Blazing Star);* beautiful golden yellow, 3 feet.

Canary Bird Vine; climber with lovely yellow blossoms.

Cardinal Climber; strong rapid climber with blazing red flowers.

Cypress Vine *(Ipomoea Quamoclit);* fern-like foliage, scarlet or mixed.

Celosia Cristata *(Cockscomb);* crimson and mixed.

Celosia Plumosa *(Cockscomb, Feathery Type);* red, yellow and mixed.

Chinese Wool Flower *(Celosia Childsii);* crimson.

Cut Flower Mixture, (5c); A mixture of easy growing annuals. Assorted colors.

Everlasting Flowers; mixed varieties and colors.

Euphorbia *(Annual Poinsettia).*

Euphorbia Variegated *(Snow on the Mountain)* Heterophylla.

Evening Primrose *(Biennial);* yellow shades, for rockery or border.

Four O'Clock *(Mirabilis Jalapa);* mixed colors, 2 feet.

Forget-Me-Not *(Myosotis);* Biennial:

VICTORIA—dwarf sky blue. 8 inches.
SEMPERFLORENS BLUE—blooms all summer.
ALPESTRIS—Blue and mixed colors.
STICK PIN—12 inches tall.

Gourds; large calabash, dipper **(10c). Mixed (5c).**

Hunnemannia *(Mexican Tulip Poppy);* yellow.

Hyacinth Bean *(Dolichos Lablab);* purple and white blooms. Climber.

Heliotrope *(Garden);* blue and mixed colors.

Humulus *(Japanese Hop);* white climber.

Helianthus *(Sunflower);* Double mixed, dwarf yellow chrysanthemum flowered.

Ice Plant; trailing for vases and rock work.

Job's Tears; produces little sprays, 12 inches.

Kochia Childsii *(Mexican Fire Bush);* green foliage turning to fiery red.

Lantana; Verbena-like clusters of flowers. 2 feet.

Linum *(Flower Flax);* Grandiflorum Rubrum, scarlet.

Linaria, Golden Gem.

Lupin *(Annual);* dark blue, sky blue and mixed.

Mimulus Maschatus *(Musk Plant);* grows 6 in.

Moon Flower; white fragrant climber; night bloomer.

Mimosa *(Sensitive Plant);* small lilac blossoms.

Nicotiana *(Flowering Tobacco);* crimson and mixed. 3 feet.

Nemesia *(Nana Compacta);* blue, scarlet, orange and mixed.

Nemophillia *(Baby Blue Eyes);* blue and mixed. 6 inches.

Nigella *(Love in a Mist);* Miss Jekyll, double blue; Hispanica, blue *(Devil in a Bush).*

Portulaca *(Rose Moss);* double mixed, single mixed.

Physalis *(Chinese Lantern);* fine everlasting flowers.

Passiflora *(Passion Flower);* mixed colors.

Poppy, King Edward; single scarlet.

Poppy, Shirley; single mixed.

Poppy, Paeony Flowered; plain edged mixed.

Poppy, Tulip; deep scarlet.

Smilax.

Statice Sinuata; blue, white, lavender, yellow, rose and mixed.

Strawbower *(Everlasting);* mixed.

Sweet Sultan; lavender, white, lilac, red, yellow.

Sweet Wivelsfield; similar to Sweet Williams. Mixed.

Wild Cucumber; rambling vine. Mixed.

Other Varieties of Perennials

Arabis *(Rock Cress)*; white rock plant.

Anchusa *(Sea Bugloss)*; blue flowers growing 6 ft.

Ampelopsis *(Virginia Creeper)*; fine climber.

Ampelopsis *(Boston Ivy)*; shiny green leaves.

Anemone *(Wind Flower)*; St. Brigid double mixed.

Antigonon *(Mountain Rose Coral Bells)*.

Armeria *(Sea Pink)*; lilac rose—rock plant.

Agrostemma *(Rose of Heaven)*; crimson, 12 in.

Asparagus Plumosus *(Asparagus Fern)*; house plant.

Asparagus Sprengeri *(Emerald Feather)*; house plant.

Begonia *(Wax Flower)*; rose and bronze foliage.

Bachelor Button *(Centaurea Cyanus)*; double rose, blue, mixed.

Cineraria; semi-dwarf **(25c)**, star flower mixed **(25c)**, ordinary mixed **(15c)**.

Canna; a greenhouse plant.

Cerastium Tomentasum *(Snow in the Summer)*; white flowers.

Cobea Scandens *(Cathedral Bells)*; blue, mixed.

Coleus; greenhouse plant, mixed colors **(15c)**.

Chairanthus *(Siberian Wall Flower)*; brilliant orange.

Dahlia; Coltness Mignon, mixed dwarf bedding; double mixed; single mixed.

Daisy, Bellis Monstrosa *(English Daisy)*; double red, rose, white and mixed.

Daisy, Shasta; double **(15c)**, single **(10c)**.

Gerbera *(Transvaal Daisy)*; mixed colors **(15c)**.

Geranium; Zonale mixed, Lady Washington **(15c)**.

Heuchera *(Coral Bells)*; crimson color **(15c)**.

Kudzu Vine *(Jack and the Bean Stalk)*; climber.

Linum *(Flowering Flax)*; perennial blue, 2½ ft.

Lupins; Perennial mixed, blue.

Nepeta *(Gray Catmint)*; blue color.

Primula *(Primrose)*;
MALACOIDES *(baby primrose)* light lilac.
KEWENSIS; golden yellow **(15c)**.
VERIS *(cowslip)* mixed colors.
VULGARIS YELLOW *(True Yellow Primrose)*.
OENTHERA; evening scented.

Pyrethrum; Golden Feather.

Pyrethrum; deep scarlet.

Pentstemon *(Beard Tongue)*; mixed colors.

Poppy, Oriental; mixed colors.

Poppy, Sanford's Giant Mixed.

Poppy; Iceland, single mixed.

Poppy, Sunbeam Hybrids; mixed.

Rock Garden Mixture; wide variety of color.

Silene *(Catchfly)*; Mixed.

Statice Latifolia; Perennial blue.

Sweet Peas *(Perennial)*; Red, Pink Beauty, White, Mixed. **Packet, 10c.**

Sweet Rocket; white mixed.

Thunbergia *(Black Eyed Susan)*; mixed shades.

Tritoma *(Red Hot Poker)*; brilliant red blossoms.

Viola Jersey Gem; apricot, yellow **(25c)**, mixed **10c)**.

Violet; beautiful blue.

Valieriania; red and mixed colors.

DIAMOND SWEET PEA COLLECTION

△

One each of the following ten-cent packets

△

PINK CREAM MAROON ORANGE PURPLE LAVENDER WHITE BLUE RED

△

A 90-cent Value All for 50c

△

PORTLAND SEED COMPANY

Common and Botanical Names of Flowers and Plants

Adam's Needle	**Yucca*
African Blue Daisy	*Arctotic Grandis*
African Golden Daisy	*Dimorphoteca*
African Lily	**Agapanthus*
Allegheny Vine	*Adlumia*
Amethyst	*Browallia*
Asparagus Fern	*Asparagus Plumosus*
Australian Pea Vine	*Dolichos Lignoses*
Baby Blue Eyes	*Nemophila Insignis*
Baby Primrose	*Primula Malacoides*
Baby's Breath	*Gypsophila*
Bachelor's Button	*Centaurea Cyanus*
Balloon Vine	*Love in A Puff*
Balsam Apple	*Momordica Balsamina*
Barberry	**Berberis*
Basket of Gold	*Alyssum Saxatile*
Beard Tongue	*Pentstamon*
Bell Flower	*Campanula*
Black Eyed Susan	*Thunbergia*
Blanket Flower	*Gaillardia*
Blanket of Snow	*Alyssum, Sweet*
Blazing Star	*Liatris*
Bleeding Heart	**Dielytra*
Blue Bottle	*Centaurea Cyannus*
Bluets	*Centaurea Cyannus*
Boston Ivy	*Ampelopsis Veitchii*
Boxwood	**Buxus*
Bridal Wreath	**Spirea Prunifolia*
Bush Poppy	*Hunnemannia*
Butterfly Bush	**Buddleia*
Butterfly Flower	*Schizanthus*
Butterfly Pea	*Centrosema*
Buttonwood	**Plantanus Orientalis*
California Poppy	*Eschscholtzia*
Canary Bird Flower	*Tropaeolum Canariense*
Candytuft	*Iberis*
Canterbury Bells	*Campanula Medium*
Cape Jasmine	**Gardenia Florida*
Cardinal Climber	*Ipomoea Quamoclit*
Cardinal Flower	*Lobelia Cardinalis*
Castor Oil Beans	*Ricinus*
Catchfly	*Silene*
Chinese Bell Flower	*Platycodon*
Chinese Lantern Plant	*Physalis Franchetti*
Clove Pink	*Dianthus Plumarius*
Cockscomb	*Celosia*
Columbine	*Aquilegia*
Cone Flower	*Rudbeckia*
Coral Bell	**Heuchera*
Cornflower	*Centaurea Cyanus*
Cornflower Aster	*Stokesia*
Cowslip	*Primula*
Crane's Bill	**Geranium*
Cypress Vine	*Ipomoea Quamoclit*
Daisy, English	*Bellis Perennis*
Dogwood	**Cornus Florida*
Dusty Miller	*Centaurea Gymnocarpa*
Dusty Miller	*Cineraria Candidissima*
Dutchman's Pipe	*Aristolochia*
Edelweiss	*Gnaphalium*
Elephant's Ears	**Caladium*
English Daisy	*Bellis Perennis*
English Primrose	*Primula Vulgaris*
Evening Primrose	*Oenothera*
Everlasting Pea	*Lathyrus Latifolius*
Everlastings	*Acroclinium*
Everlastings	*Helichrysum*
Everlastings	*Rhodanthe*
Everlastings	*Statice*
Fairy Lily	**Zephyranthes*
Feverfew	*Matricaria*
Flax	*Linum*
Fleur De Lis	**Iris Germanica*
Floss Flower	*Ageratum*
Flowering Maple	*Abutilon*
Flowering Tobacco	*Nicotiana*
Forget-Me-Not	*Myosotia*
Four O'Clock	*Mirabilis*
Foxglove	*Digitalis*
Garden Heliotrope	*Valerian*
Gentian	*Gentiana*
Geum	*Avens*
Globe Amaranth	*Gomphrena*
Gold Dust	*Alyssum Saxatile*
Golden Bell	*Forsythia*
Golden Chain	**Cytisus*
Golden Feather	*Pyrethrum Aureum*
Golden Rod	*Solidago*
Grass Pinks	*Dianthus Plumarius*
Harebell	*Campanula Carpatica*
Hollyhocks	*Athaea Rosea*
Honesty	*Lunaria*
Hops, Japanese	*Humulus*
Horn of Plenty	*Datura Cornucopia*
Hyacinth Bean	*Dolichos*
Ice Plant	*Mesembryanthemum*
Indian Shot	*Canna*
Jacobean Lily	**Amaryllis Formosus*
Japanese Pinks	*Dianthus Heddewegii*
Jerusalem Cherry	*Solanum*
Job's Tears	*Coix Lachryma*
Joseph's Coat	*Amaranthus Tricolar*
Kenilworth Ivy	*Linaria Cymbalaria*
Kudzu Vine	*Thunbergia Pueraria*
Lace Flower	*Didiscus*
Lady's Ear Drop	*Fuchsia*
Lady's Slipper	*Balsam*
Larkspur	*Delphinium*
Lavender	*Lavandula*
Leadwort	**Plumbago*
Lemon Verbena	**Aloysia Citriodora*
Lily of the Valley	**Convallaria*
Love Grass	*Nemophila*
Love in a Mist	*Nigalla*
Love Lies Bleeding	*Amaranthus Caudatus*
Maiden Hair Fern	*Adiantum*
Mallow	*Hibiscus*
Marvel of Peru	*Mirabilis*
Matilija Poppy	*Romneya Coulteri*
Meadow Rue	**Thalictrum*
Mexican Fire Bush	*Kochia*
Mexican Fire Plant	*Euphorbia Hetorophylla*
Mignonette	*Reseda*
Mock Orange	**Philadelphus*
Monk's Hood	**Aconitum*
Moonflower	*Iponoca*
Mountain Rose	*Antigonon*
Morning Glory	*Convolvulus*
Mourning Bride	*Scabiosa*
Musk Plant	*Mimolus Moschatus*
Myrtle	*Vinca Minor*
Nasturtium	*Tropaeolum*
Night Scented Stock	*Matthiola*
Orange Daisy	*Dimorphoteca*
Painted Tongue	*Salpiglossus*
Pampus Grass	**Gynerium*
Pansy	*Viola*
Passion Flower	*Passiflora*
Peach Bells	*Campanula Persicifolia*
Periwinkle	*Vinca*
Pheasant's Eye	*Adonis Aestivalis*
Pin Cushion	*Scabiosa*
Pinks	*Dianthus*
Polyanthus	*Primula*
Poppy	*Papaver*
Pot Marigold	*Calendula*
Prince's Feather	*Amaranthus Cruentus*
Quaking Grass	*Briza*
Ragged Robin	*Lychinis*
Red Hot Poker	*Tritoma*
Rock Cress	*Arabis*
Rocket	*Hesperia*
Rose Campion	*Lychnis*
Rose of Heaven	*Agrostema*
Rose of Sharon	*Althaea*
Sand Verbena	*Abronia*
Satin Flower	*Godetia*
Scarlet Sage	*Salvia Splendens*
Sea Bugloss	*Anchusa*
Sea Lavender	*Statice*
Sea Pink	*Armeria*
Smilax	*Myrsiphyllum Asparagoides*
Snapdragon	*Antirrhinum*
Sneezewort	*Achillea*
Snow of Summer	*Cerastium*
Snowball	**Viburnum*
Snow on the Mountain	*Euphorbia Variegata*
Speedwell	**Veronica*
Spider Plant	*Cleome*
Star of Bethlehem	**Ornithogalum*
St. Bruno's Lily	**Anthericum*
Stocks	*Gilliflower*
Stone Crop	*Sedum*
Straw Flower	*Acroclinium*
Straw Flower	*Helichrysum*
Straw Flower	*Rhodanthe*
Straw Flower	*Statice*
Summer Cypress	*Kochia*
Sunflower	*Helianthus*
Sunplant	*Portulaca*
Swan River Daisy	*Brachycome*
Sweet Rocket	*Hesperis*
Sweet Shrub	*Calycanthus*
Sweet Sultan	*Centaurea Imperialis*
Sweet William	*Dianthus Barbatus*
Tagetes	*Marigold*
Tassel Flower	*Cacalia*
Thimble Flower	*Gilia*
Thrift	*Armeria*
Tobacco	*Nicotiana*
Transvaal Daisy	*Gerbera*
Trumpet Flower	*Datura*
Trumpet Vine	*Bignonia*
Umbrella Tree	*Catalpa*
Venus' Looking Glass	*Campanula Speculum*
Violet	*Viola Odorata*
Virgin's Bower	*Clematis*
Virginia Creeper	*Ampelopsis Quinquefolia*
Wallflower	*Cherianthus*
Wind Flower	*Anemone*
Wormwood	*Artemesia Absynthium*
Yarrow	*Achillea*
Youth and Old Age	*Zinnia*

*Plants generally grown from bulbs or rooted stocks.

Dusting and Spraying

Plants become ill just as human beings do. When you walk or work amongst them in your garden, watch out for trouble. You are your garden's physician. Anything that looks wrong probably is wrong: a spot on a leaf, a leaf eaten away, tiny objects clinging to a branch, etc.

First, just what will you meet up with: Gardens are attacked by, (1) insects, (2) diseases, and (3) miscellaneous pests.

1. INSECT PESTS

Insects must eat—that is why they come after the growing things in your garden. There are two main kinds: biting insects, and sucking insects. The biters are controlled with stomach poisons placed on the leaves they eat. The suckers do not get their food from the surface of the plant, but from its juices, and must be fought with "contact insecticides" which will kill them in other ways.

2. PLANT DISEASES

Fungi or bacteria may be the cause of the trouble if you are unable to discover actual insects about a troubled plant. These are controlled with spraying or dusting of the plant. In some cases, the soil must be disinfected. In still other cases, when you find that the disease is transmitted by an insect from one plant to another the insect has to be controlled.

3. MISCELLANEOUS PLANT PESTS

These include gophers, slugs, snails squirrels, etc.

HOW TO IDENTIFY GARDEN PEST TROUBLES

The best way is to know the appearance of a plant after it has been attacked, and to have pictures and descriptions of each pest. Remembering here the different kinds of pests, biting and sucking insects, fungous and bacterial diseases, and the miscellaneous pests, we shall talk about each in turn. On the following pages you will find tables listing the varieties of pests you may have trouble with, what harm they do and how to control them.

BITING INSECTS

When you come across leaves which seem to have been eaten away in part or entirely, or roots, tubers, or another part of a plant with an eaten look, your garden is being visited by biting insects. Some biters burrow into fruit and lay eggs there. Some tunnel into other parts of the plant.

Most of the biting insects can be killed with lead arsenate. All the control measures given in this chapter are sold under various trade names.

In the table, you will notice, most of the biting insects are beetles, caterpillars, grasshoppers and worms and the chief remedy is lead arsenate spray or dust.

SUCKING INSECTS

Some times you will shake a flower and tiny specks like pepper will fall out. Or you may see a leaf unnaturally curled, and sticky to touch. At other times a tiny insect will jump from a leaf if you disturb it.

You may see a cluster of things like minute barnacles or little eggs clinging to a stem or twig. Or you may not see any actual insects, but only a strange yellowing of the leaves, tender young leaves stunted and curling, distorted buds, discoloring of the plant, blackening, fungus growing in a sticky mass of honeydew, stunted flowers, or little galls on stems or the upper parts of leaves.

When you notice any of these signs, the trouble is some sucking insect or other. None of them do all of these things; each has its specialty.

Note in the table on the next page that a combination oil nicotine spray is the remedy in most cases here, and that the pests are spiders, and the tiniest mites, bugs or flies.

FUNGOUS DISEASES

If there are gray, powdery growths on your plants; tiny red, brown or black pustules (elevations looking like pimples or blisters); holes in the leaves, red spot on the fruit; dying buds; soft brown spots; curled, distorted leaves; black spots on your Roses; or premature falling of leaves—the trouble is probably fungi (microscopic plant organisms, living as parasites on your plants).

Note, in the table, the importance of Bordeaux mixture in controlling fungous diseases.

BACTERIAL DISEASES

When your leaves, twigs or branches die in an unaccountable manner, they may be attacked by some bacterial disease or blight. Potatoes, tomatoes and celery so attacked may sometimes be controlled with Bordeaux mixture. Peaches and walnuts are probably doomed, however, although you can try the same control measure with them. It is sometimes effective with peaches.

MISCELLANEOUS PLANT PESTS

Most of the time you will see them "in person," and so will know that they are around. Snails can either be hand picked and stepped on (wear gloves if you are squeamish about handling them); or can be killed with poisoned bait.

Other pests which succumb to poisoned bait—and usually one preparation will do for them all—are sow bugs, slugs, and earwigs. Special commercial ant poisons are on the market, one of the best being light poison which does not kill the ants at once. They are attracted to it, drink their fill, return to their hills and feed it to the young; thus the entire colony is exterminated at its source.

Moles are caught with regular mole traps. Squirrels, gophers and rabbits are discouraged with poisoned barley, which you can also buy. Success has been had in gopher control with fumigating bombs which are ignited, dropped in the holes quickly, and the holes covered at once. Gophers, however, are best trapped.

PEST CONTROL CHART

Use Sprays and Dusts For Healthy Flowers and Vegetables

Plants	Description of Injury, Insect or Disease	Insect or Disease	Spray or Dust	How and When to Apply
FLOWERS Aster Begonia Calendula Canna Camellia Carnation Chinese Lantern Cineraria Coleus Cosmos Chrysanthemum Dahlia Daisy Delphinium Fern Foxglove Fuchsia Gardenia Geranium Golden-Glow Gladiolus Hibiscus Hollyhock Lantana Morning-Glory Nasturtium Pansy Peony Petunia Phlox Primula Rose Snapdragon Sweet Pea Violet Zinnia	Aphids are small soft-bodied sucking insects 1/10 inch long, clustered together on flowers, leaves and stems.	Aphid Thrips Leafhopper	Aphis Spray Black Leaf 40 Evergreen Garden Volk Rotenone Garden Guard Botano Dust	Spray thoroughly, make sure to hit the insects to be controlled; repeat sprays every few days.
	Tiny black or yellowish elongated winged or wingless insects. Thrips rasp flowers and leaves, causing them to brown and die.			The nicotine only is effective against these insects. Be sure to hit the insects with it. The powder can be added according to directions to control any chewing insects or blight which may be present.
	Leafhoppers are wedgeshaped insects ⅛— ⅜ inch long, winged or wingless; rear legs are very long. When disturbed they walk sideways.			
	Beetles are hard-shelled insects of various colors and sizes which eat into or entirely consume leaves and flowers.	Beetle Slug Caterpillar	Emo-Nik Caltox Black Leaf 40 Aphis Spray	Spray upon insects. Be sure to hit them.
	Slugs are soft-bodied, slimy and legless. They rasp away upper leaf surfaces or eat holes in them.			Apply a heavy spray upon insects and entire plant; both nicotine and powder are effective.
	Caterpillars are fuzzy or hairless worm-like insects eating away at buds, flowers and foliage. They may occur singly or in colonies rolling leaves together or spinning webs.			Broadcast the dust over the insects and plant from shaker carton or hand duster.
	Cutworms pierce or cut off leaves or main stem of seedlings near the ground line.	Cutworms Sowbug Slug Grasshopper	Diamond Naphthalene Flakes Bug-Go Meta Snarol Bait-M	Spread a thin band of Bait-M on the ground around the plant to be protected. For larger area spread small windrows criss-cross over like a checkerboard with two foot squares, or broadcast.
	Sowbugs are dark grey oval-shaped, 14 legged creatures ½ inch long; if disturbed they curl up like a pill. Sowbugs feed upon seedlings and tender plants.			
	Slugs are soft-bodied, slimy and legless, rasping away at upper leaf surfaces or eating out holes.			
	Rust is a disease that causes leaves or stems to be rusty brown or yellowish, in streaks or in patches.	Rust Mildew Leafspot	M-R-S Dusting Sulphur Garden Sulphur Kopper Queen	Scatter about on plant, thoroughly cover all parts. Repeat every 10 days. Nicotine also can be added to control certain insects.
	Mildew shows powdery or felt-like patches on leaves and stems, causing leaves to curl up and drop.			Dust from shaker carton or hand duster over entire foliage, completely covering all leaves. Repeat before rain periods or every few days.
	Leafspot is the cause of small spots on leaves or masses of spots, usually brown. Sometimes centers of spots fall out leaving leaf-holes.			
	Ants are six-legged insects familiar to all.	Ant	Ant-Kill (several good brands)	Ant-Kill is effective against sweet-eating varieties of ants. For grease ants put bacon rind with syrup.
VINES AND SHRUBS Honeysuckle Lilac Cedar Snowball Privet Hydrangea Spirea Grape Ivy Virginia Creeper	Ahpids are small, soft-bodied sucking insects 1/10 inch long, clustered together on flowers, leaves and stems.	Aphid Thrips Leafhopper	Aphis Spray Black Leaf 40 Evergreen Garden Volk Emo-Nik Rotenone Garden Guard Botano) Dust	Spray thoroughly, make sure to hit the insects to be controlled; repeat sprays every few days.
	Tiny black or yellowish elongated winged or wingless insects, thrips rasp flowers and leaves causing them to brown and die.			The nicotine only is effective against these insects. Be sure to hit the insects with it. The powder can be added according to directions to control any chewing insects or blight which may be present.
	Leafhoppers are wedgeshaped insects ⅛— ⅜ inch long, winged or wingless; rear legs are very long. When disturbed they walk sideways.			
	Beetles are hard-shelled insects of various colors and sizes which eat into or entirely consume leaves and flowers.	Beetle Slug Caterpillar	Diamond Naphthalene Flakes Meta Black Leaf 40 Garden Guard	Spray thoroughly; make sure to hit the insects to be controlled; repeat sprays every few days.
	Slugs are soft-bodied, slimy and legless. They rasp away upper leaf surfaces or eat holes in them.			Apply a heavy spray upon insects and entire plant; both nicotine and powder are effective.
	Caterpillars are fuzzy or hairless worm-like insects eating away at buds, flowers and foliage. They may occur singly or in colonies rolling leaves together or spinning webs.			Broadcast the dust over the insects and the plant.
	Scale insects are minute bark-like scales on branches, stems, or leaves.	Scale	Dry Lime & Sulphur (dormant season) Bordeaux (growing season)	Dormant spray (spring).
				(Lime Sulfur discolors painted surfaces.) Growth spray (summer).
	Leaves have minute silken threads and webs on the undersides, in which are tiny red spiders. Leaves become speckled, brown and drop off.	Red Splder Mite	Evergreen Garden Volk Emo-Nik Dusting Sulphur	Spray on pests and on under leaf surfaces; repeat weekly.
				Dust thoroughly from sifter carton or hand duster, getting dust into places where red spiders are feeding; repeat frequently.

PEST CONTROL CHART

Use Sprays and Dusts For Healthy Flowers and Vegetables

Plants	Description of Injury, Insect or Disease	Insect or Disease	Spray or Dust	How and When to Apply
VINES AND SHRUBS (Continued)	Rust is a disease that causes leaves or stems to be rusty brown or yellowish, in streaks or in patches.	Rust Mildew Leafspot	M-R-S Dusting Sulphur Garden Sulphur Kopper Queen	Spray thoroughly on plant, covering all parts. Repeat every 10 days. Nicotine also can be added to control certain insects.
	Mildew shows powdery or felt-like patches on leaves and stems cause leaves to curl up and drop.			Dust from shaker carton or hand duster over entire foliage, completely covering all leaves. Repeat before rain periods and every few days.
	Leafspot is the cause of small spots on leaves or masses of spots, usually brown. Sometimes centers of spots fall out leaving leaf-holes.			
VEGETABLES AND BERRIES Spinach Celery Beets Cabbage Cauliflower Melon Pepper Tomato Potatoes Currant Gooseberry Blackberry Raspberry	Aphids are small soft-bodied sucking insects 1/10 inch long, clustered together on stems and leaves.	Aphis Leafhopper	Aphis Spray Black Leaf 40 Evergreen Garden Volk Rotenone Garden Guard Botano Dust	Spray on the insects, often. Spray on the under side of leaves until all insects are drenched.
	Leafhoppers are wedgeshaped insects 1/8—3/8 inch long, winged or wingless; rear legs are very long. When disturbed they walk sideways.			The nicotine only is effective against these insects. Be sure to hit the insect with it. The powder can be added according to directions to control any chewing insects or blight which may be present.
	Beetles are hard-shelled insects of various colors and sizes which eat into or entirely consume leaves and flowers.	Beetle Slug Caterpillar	Aphis Spray Evergreen Naphthalene Meta Garden Guard Caltox	Spray thoroughly, make sure to hit the insects to be controlled; repeat sprays every few days.
	Slugs are soft-bodied, slimy and legless. They rasp away upper leaf surfaces or eat holes in them.			Apply a heavy spray gun upon insects and entire plant.
	Caterpillars are fuzzy or hairless worm-like insects eating away at buds, flowers and foliage. They may occur singly or in colonies rolling leaves together or spinning webs.			Non-poisonous to humans—safe on edibles. Broadcast the dust over the insects and plant.
	Cutworms pierce or cut off leaves or main stem of seedlings near the ground line.	Cutworms Slugs Grasshoppers	Meta Snarol Bug-Go Bait-M Naphthalene	Spread a thin band of Bait-M on the ground around the plant to be protected. For larger area spread small windrows criss-cross over like a checkerboard with two foot squares, or broadcast.
	Slugs are soft-bodied, slimy and legless, rasping away at upper leaf surfaces or eating out holes.			
	Leaves have minute silken threads and webs on undersides, in which are tiny red spiders. Leaves become speckled, brown and drop off.	Red Spider Mite	Emo-Nik Garden Volk Evergreen	Spray on pests and on under leaf surfaces; repeat weekly.
				Dust thoroughly from sifter carton or hand duster, getting dust into places where red spiders are feeding; repeat frequently.
	Rust is a disease that causes leaves or stems to be rusty brown or yellowish, in streaks or patches.	Rust Mildew Leafspot Blight	Kopper Queen Dusting Sulphur	Spray thoroughly on plant, covering all parts. Repeat every 10 days. Nicotine also can be added to control certain insects.
	Powdery or felt-like patches on leaves and stems cause leaves to curl and drop.—Mildew.			Dust from sifter carton or hand duster over entire foliage, completely covering all leaves. Repeat before rain periods and every few days.
	Leafspot is the cause of small spots on leaves or masses of spots, usually brown. Sometimes centers of spots fall out leaving leaf-holes.			
SHADE TREES Ash Beech Birch Box Elder Catalpa Chestnut Elm Hickory Locust Maple Oak Sycamore	Numerous soft-bodied sucking insects (aphids) 1/10 inch long, clustered together on twigs and leaves.	Aphid	Aphis Spray, Black Leaf 40, Evergreen, Emo-Nik, Garden Volk, Garden Guard, Botano Dust	Spray thoroughly, make sure to hit the insects to be controlled; repeat sprays every few days.
	Bright red or red bordered insects, winged or wingless. Box-Elder plant-bugs suck sap from tree shoots and leaf stems.	Box-Elder Plant Bugs	Emo Garden Volk Emo-Nik	Spray thoroughly, make sure to hit the insects to be controlled; repeat sprays every few days.
	Very small scales varying in size from nearly visible to 1/8 inch long, found on leaves, twigs and bark.	Scale	Dry Lime-Sulphur Emo	Dormant spray (early in spring). Lime Sulfur discolors painted surface.
				Dormant spray (early in spring).
	Caterpillars are hairy or hairless worm-like insects which eat holes in foliage.	Caterpillar	Arsenate of Lead	Spray the trees just before the spring leaves attain mature growth, repeat when necessary.
	Hard-shelled oval or oblong shaped insects eating holes in leaves or partly consuming them.	Beetles		
EVERGREENS Arbor Vitae Balsam Cedar Hemlock Larch Pine Spruce	Numerous soft-bodied sucking insects (aphids) 1/10 inch long, clustered together on twigs and needles.	Aphid	Same as other Aphis Control	Dormant spray (early spring).
				Growth spray (summer).
	Very small scales vary in size and color. They are found in masses about needles.	Scale	Emo Nursery Volk	Dormant spray (early in spring).
	Tiny mites cause minute spider web tangles about leaves causing them to dry up and the tree to die.	Red Spider	Garden Volk Emo-Nik Evergreen	Apply forcefully with a good power spray. Repeat frequently in 5 days intervals.
	Worms that eat needles at the base, causing needles to drop out; or needles become gnawed and killed.	Caterpillar	Arsenate of Lead	Spray the infested area, often.

CONSULT YOUR LOCAL DEALER OR COUNTY AGENT

VEGETABLE SEED PLANTING CHART

KIND OF SEED	Time to Plant Outdoors	Distance for Plants		SEED REQUIRED		Ready to Use
		Bet. Rows	In the Row	Row	Acre	
ASPARAGUS	February to April	5 to 6 ft.	18 to 24 in.	1 oz. to 40 ft.	2 to 3 lbs.	2nd Spring
BEANS, Bush	April, May and June.	2 to 3 ft.	3 to 4 in.	1 lb. to 250 ft.	90 to 100 lbs.	40 to 65 days
BEANS, Pole	April, May and June.	4 ft.	2½ to 3 ft.	1 lb. to 125 hills	30 to 40 lbs.	70 to 90 days
BEANS, Lima	May and June	2 to 4 ft.	10 to 36 in.	1 lb. to 80 hills	50 to 60 lbs.	90 to 130 days
BEETS, Table	March to July	14 to 20 in.	2 to 4 in.	1 oz. to 100 ft.	10 to 15 lbs.	45 to 60 days
BROCCOLI*	June to August	24 to 30 in.	14 to 18 in.	1 oz. to 1500 plants	6 to 8 oz.	120 to 150 days
BRUSSEL SPROUTS*	April to June	30 to 36 in.	18 to 24 in.	1 oz. to 2000 plants	6 to 7 oz.	100 to 120 days
CABBAGE, Early*	February to April	30 to 36 in.	16 to 24 in.	1 oz. to 2000 plants	6 to 8 oz.	90 to 110 days
CABBAGE, Late*	May and June	36 to 42 in.	24 to 30 in.	1 oz. to 2000 plants	6 to 7 oz.	110 to 120 days
CARROTS	April to July	12 to 24 in.	2 to 3 in.	1 oz. to 250 ft.	3 to 4 lbs.	55 to 80 days
CAULIFLOWER*	March to June	3 to 4 ft.	24 to 30 in.	1 oz. to 1500 plants	6 to 7 oz.	95 to 110 days
CELERY*	April to July	18 to 36 in.	6 to 10 in.	1 oz. to 8000 plants	4 to 5 oz.	120 to 150 days
CHICORY	March to May, Sept.	16 to 20 in.	6 to 8 in.	1 oz. to 200 ft.	3 to 4 lbs.	90 to 120 days
CHIVES	April and May	12 to 18 in.	4 to 6 in.	1 oz. to 200 ft.	4 to 5 lbs.	125 to 150 days
SWEET CORN	April to June	36 to 42 in.	9 to 12 in.	1 lb. to 100 hills	12 to 15 lbs.	55 to 90 days
CRESS	Feb. to May, Sept.	12 to 18 in.	4 to 6 in.	1 oz. to 250 ft.	3 to 4 lbs.	45 to 60 days
CUCUMBER	April to July	4 to 6 ft.	10 to 12 in.	1 oz. to 100 hills	2 to 3 lbs.	50 to 75 days
EGG PLANT*	April and May	24 to 30 in.	18 to 24 in.	1 oz. to 1500 plants	4 to 5 oz.	125 to 140 days
ENDIVE	May and June	18 to 20 in.	10 to 12 in.	1 oz. to 300 ft.	3 to 4 lbs.	90 to 100 days
HERBS, Annual	March and April	20 to 24 in.	10 to 12 in.	1 oz. to 200 to 600 ft.	3 to 10 lbs.	125 to 150 days
HERBS, Perennial	April to June	20 to 24 in.	10 to 12 in.	1 oz. to 200 to 600 ft.	3 to 10 lbs.	Next Season
KALE	Mar. and Apr., Aug.	18 to 24 in.	12 to 18 in.	1 oz. to 2000 plants	6 to 8 oz.	55 to 60 days
KOHL RABI	March to May	16 to 24 in.	6 to 8 in.	1 oz. to 300 ft.	3 to 4 lbs.	50 to 70 days
LEEK	May to June	14 to 20 in.	4 to 6 in.	1 oz. to 150 ft.	4 to 5 lbs.	120 to 150 days
LETTUCE, Leaf	March to September.	12 to 18 in.	4 to 6 in.	1 oz. to 600 ft.	4 to 5 lbs.	40 to 70 days
LETTUCE, Head	February to August.	12 to 16 in.	12 to 14 in.	1 oz. to 3000 plants	1 to 1½ lbs.	70 to 90 days
MUSKMELON	April to June	6 to 8 ft.	4 to 6 ft.	1 oz. to 40 hills	3 to 5 lbs.	90 to 150 days
WATERMELON	May and June	8 to 12 ft.	6 to 10 ft.	1 oz. to 25 hills	4 to 6 lbs.	100 to 160 days
MUSTARD	March to May, Sept.	12 to 18 in.	2 to 3 in.	1 oz. to 600 ft.	4 to 5 lbs.	60 to 90 days
OKRA*	April and May	2½ to 3 ft.	18 to 24 in.	1 oz. to 250 plants	5 to 6 lbs.	70 to 90 days
ONION, Seed	April and May	12 to 18 in.	2 to 4 in.	1 oz. to 200 ft.	4 to 5 lbs.	125 to 150 days
ONION, Sets	October to May	12 to 18 in.	2 to 3 in.	1 lb. to 50 ft.	2 to 3 sacks	50 to 70 days
PARSLEY	March to May, Sept.	18 to 24 in.	12 to 16 in.	1 oz. to 250 ft.	3 to 4 lbs.	65 to 90 days
PARSNIP	April to June	15 to 20 in.	2 to 4 in.	1 oz. to 300 ft.	4 to 6 lbs.	130 to 145 days
PEAS, Dwarf	Nov. & Feb. to June.	18 to 24 in.	1 to 2 in.	1 lb. to 120 ft.	150 to 175 lbs.	45 to 75 days
PEAS, Tall	Nov. & Feb. to June.	4 to 6 ft.	1 to 2 in.	1 lb. to 120 ft.	100 to 125 lbs.	60 to 90 days
PEPPER*	May and June	18 to 24 in.	14 to 16 in.	1 oz. to 1500 plants	3 to 4 oz.	130 to 150 days
POTATOES, Irish	March to June	24 to 36 in.	14 to 18 in.	1 lb. to 15 ft.	7 to 9 sacks	90 to 150 days
PUMPKIN	May to July	8 to 12 ft.	6 to 8 ft.	1 oz. to 30 hills	4 to 5 lbs.	75 to 90 days
RADISH	February to Sept.	12 to 18 in.	1 to 2 in.	1 oz. to 100 ft.	8 to 10 lbs.	20 to 75 days
RHUBARB	March to June	30 to 36 in.	16 to 24 in.	1 oz. to 250 ft.	6 to 8 oz.	3rd Year
RUTABAGA	May and June	18 to 24 in.	6 to 8 in.	1 oz. to 400 ft.	2 to 3 lbs.	90 to 120 days
SALSIFY	March to May	18 to 24 in.	2 to 4 in.	1 oz. to 120 ft.	8 to 10 lbs.	120 to 150 days
SPINACH	Feb. to May, Sept.	12 to 18 in.	3 to 6 in.	1 oz. to 100 ft.	10 to 12 lbs.	45 to 60 days
SQUASH, Bush	April to June	3 to 4 ft.	3 to 4 ft.	1 oz. to 30 hills	4 to 6 lbs.	65 to 70 days
SQUASH, Winter	May to July	10 to 12 ft.	8 to 10 ft.	1 oz. to 15 hills	3 to 4 lbs.	120 to 140 days
SWISS CHARD	March to July	12 to 18 in.	4 to 8 in.	1 oz. to 150 ft.	6 to 8 lbs.	45 to 60 days
TOMATO*	April to June	3 to 4 ft.	2 to 3 ft.	1 oz. to 3000 plants	3 to 4 oz.	125 to 150 days
TURNIP	March to August	12 to 15 in.	3 to 4 in.	1 oz. to 400 ft.	2 to 4 lbs.	45 to 90 days

* Planting dates shown for crops marked "*" are intended to be for setting plants into the garden. Seeds should be sown 40 to 60 days earlier, indoors or under glass.

Seed should be covered from three to five times its diameter. Press soil down firmly. Keep moist continuously.

The above chart gives distances between rows for hand cultivation; where horse or tractor is used the rows should be farther apart.

Vegetables

To the seasoned home gardener or farmer the next few lines will be of little importance, but every year there are more and more new members added to the national "Kitchen Gardeners' Club" that we believe it will help these people greatly if a few fundamental facts are stated before we enter into the description of the various varieties of Diamond Quality vegetable seed.

As to soil and situation, make the best of what you have. Few of us can pick and choose the ideal site, soil and other factors so emphatically emphasized by most writers on gardening. Yet it is advisable to know what these are so that they may be recognized and as nearly as possible established.

If a choice of exposure is possible, choose a gentle slope toward the east, the southeast or the south, because these are the early facings of the sun. Other conditions being equal, vegetables on such slopes will mature earlier and be of higher quality. Supplementing this, if possible, protect the area on the north, west and northwest, from cold winds. This can often be afforded by woods, buildings, evergreen hedges or tight-board fences.

Always the ground should be well drained, either naturally or artificially, for well drained land is warmer and earlier. It is also more retentive of moisture, which constanty ascends from lower levels bringing the plants supplies of necessary plant food.

Though the gardener must often make the best of the soil he has, where a choice is possible it is best governed by the physical character of the soil because this is the hardest to modify.

Clay, adobe and heavy soil do not readily absorb moisture, or easily assimilate plant food; yet they are retentive of both. As they retain moisture, they are cold and late in spring; they are also heavy and sticky and hard to work when wet. However, they can be made into very good growing soil by working a sufficient amount of peat moss or some other good humus.

Very light sandy soils are easy to work, even when wet. They are loose and friable, readily receptive but not retentive of water and plant food, which consequently tend to wash out and be lost. This type of soil can be improved greatly by also adding peat moss or other good humus.

In order to produce the finest vegetables it is important to have fertile soil so that crops can be grown as rapidly as possible. There are three basic elements in any good plant food (see Now about Fertilizer, page 40).

Asparagus

The young, tender shoots of asparagus have been used as a vegetable for over two thousand years. It can be grown in practically every part of the United States except in areas of extreme heat.

Asparagus is the most permanent of all vegetable crops, because of this it is obvious that the home gardener should plan to place it in a separate bed that can stand for years. No soil is too rich for asparagus, it will grow in any ordinary good garden soil but will not produce tender stalks without liberal supply of commercial fertilizer and plenty of moisture.

For the home gardener it is usually too troublesome to start asparagus from seed, for a moderate price you can purchase dormant one-year crowns or roots, thus hastening ultimate production for several years. It takes 60 to 70 roots for 100 foot row. Rows should be 4 to 5 feet apart.

If planting from seed, it is best to drill thinly in rows 15 inches apart during March or early April, thin out to two inches apart the strong plants. Transplant during February, setting the roots 1 foot apart in rows 4 feet apart. The rows should be 10 to 12 inches deep and running north and south, getting the sun on both sides. Cover the roots about 3 inches and as the plants grow, continue to cover until rows are filled.

Giant Washington. The genuine rust resistant strain, stalks long, rich dark green. Thick and heavy of excellent tender quality.

Packets, 5c; oz., 15c, postpaid

Mary Washington. A special selection of Giant Washington. Somewhat earlier and larger but equally resistant to rust.

Packets, 5c; oz., 15c, postpaid

Artichokes

Artichokes originally came from the Southern Mediterranean. It is primarily a winter vegetable and is produced in certain parts of California where the areas are frost free in winter and cool and foggy in summer.

In the producing areas suckers are used in place of seed so as to insure winter production of heads. Although the plant is a Perennial, without the peculiar climatic conditions the production of artichokes is not advisable. They may however, be grown in many frosty areas if the proper precautions are taken.

Seed may be sown at any time except during the hottest weather when all seed beds require special care. Soil should be a free moist loam and seed should be planted an inch deep. Transplant when six inches high in rows four feet apart each way. Save offsets from best plants for new supply as artichokes never come true to seed. When transplanting seedlings reject those with spindly leaves. The best edible variety is **Green Globe. Packet, 5c; oz., 75c, postpaid.**

Jerusalem Artichokes are adapted to nearly all sections west of the Cascade Mountains and the irrigated sections east of the Cascades. Used most extensively as stock feed for hogs, cattle, sheep and horses. For best results they should be fed with grain or legume hay, or both. This type of Artichoke requires the same soil and cultural methods as potatoes. 500 to 800 cut tubers are required to plant an acre. **10 lbs., $1.00, postpaid.**

Beans

The Bean is a native of the far east and has been cultivated from the earliest time. No doubt the bean is used more generally than any other vegetable both for its delicious edible green pod and the nutritious seed.

Beans are classified into two groups. The Dwarf or Bush variety and the Pole or Climbing type. These two groups are again divided into two distinct types. The Green Podded varieties and the Wax or Yellow Podded varieties.

Nearly all the bush varieties are 10 to 12 days earlier than the pole, which makes them a favorite among the home and market gardeners.

Beans will not stand frost and should not be planted until two weeks after the last killing frost. It takes about a pound of seed for a row 100 feet and should be planted in hills with approximately 3 or 4 seed to the hill. For the most tender and delicious beans they should be picked when about two-thirds grown.

For a succession crop plant every ten days or two weeks until about the first of August. Seed sown after this time will probably be caught by early frost. Bush varieties mature from 45 to 70 days depending on the heat, pole varieties take 75 to 80 days.

Cultivate frequently but never do this in the early morning or just after a rain. All evidence points to the foliage of the bean as dangerously likely to spread disease if implements or clothing brush past it while it is wet. Keep this in mind when picking the crop.

Packet, 10c; ½ pound, 20c; 1 pound, 30c, postpaid.

KENTUCKY WONDER BEANS

LIMA BEANS

Oregon Pole Lima. Proven over many years to be well adapted to our cool Northwest climate. Strong, vigorous grower, bearing continuously until frost. Pods best when turning yellow.

Other Varieties. Burpee Bush Lima, Henderson Bush, Fordhook Bush.

GREENPOD POLE VARIETIES

Oregon Giant Greenpod. Keeps producing until killed by frost. Large, fleshy pods, 10 to 12 inches in length, stringless, light greenish yellow splashed with red.

Kentucky Wonder. Pods are very fleshy, saddle-backed, fine grained and stringless. Early prolific, vigorous climber so stout poles are needed. Average 8 to 10 inches in length and are light green in color.

Other Varieties. Tall or London Horticulture, White Creaseback or Blue Lake, Lazy Wife, Dutch Case Knife.

WAX POD POLE VARIETIES

Kentucky Wonder Wax. Very early. Starts bearing when scarcely higher than a bush bean and continues until frost. Pods are fleshy, long, crimpled, creamy yellow and practically stringless.

Golden Cluster Wax. Long tender pods. Brilliant yellow in color and fairly early. Bears prolifically during warm weather.

GREENPOD BUSH VARIETIES

Stringless Greenpod. By far the best of this type. Very early and heavy producer. Pods 5 to 6 inches long, round and exceedingly fleshy. Absolutely stringless and tastiest of all beans.

Stringless Black Valentine. Pods very fleshy, round and saddle back. Produce large crops. Always tender.

Other Varieties. Dwarf Horticultural or Cranberry, Stringless Refugee, Bountiful, Canadian Wonder, Red Valentine, Tendergreen, Broad Windsor, Lady Washington and Little Navy.

WAX POD BUSH VARIETIES

Improved Golden Wax. Vigorous and highly productive. Reaches table condition in 50 days. Pods are deep golden, about 5 inches in length, broad, oval and stringless.

Davis Wax. Pods are long, rust resistant and very tender. The dry, white, kidney-shaped beans are excellent for baking.

Other Varieties. Stringless Wax, Pencil Pod Black Wax, Brittle Wax, Prolific Black Wax, Round Pod Kidney Wax and Wardwell's Kidney Wax.

DETROIT DARK RED BEETS

P. S. Co. Market Gardener. Extra early and remarkable for its fine quality and rapid growth. Tops small, roots deep red, globe-shaped, flesh dark red, fine grained and tender. It is preferred by market gardeners because it matures evenly, stands long and does not split.
Packet, 5c; oz., 15c; ¼ lb., 35c; 1 lb. $1.00

Detroit Dark Red. Due to its uniformity in size and smooth handsome appearance it is very popular with canners as well as home gardeners. Roots are deep red, globe-shaped, with small tap root. This variety is entirely free of white rings and retains its tasty flavor after it grows to full size. **Packet, 5c; oz., 15c; ¼ lb., 35c; 1 lb., $1.00**

Early Blood Turnip. An improved variety over the blood turnip Beet. Top large, roots dark red and nearly round; flesh deep red with lighter zoning; sweet, crisp and tender. We recommend these beets for summer and fall use.
Packet, 5c; oz., 15c; ¼ lb., 35c; 1 lb., $1.00

Extra Early Egyptian. One of the best for forcing. Tops small, roots dark red, rounded top, flat on bottom, with very small tap root. Flesh sweet and tender.
Packet, 5c; oz., 15c; ¼ lb., 35c; 1 lb., $1.00

Other Varieties. Crosby Egyptian, Early Wonder, Early Eclipse. **Pkt., 5c; oz., 15c; ¼ lb., 35c; 1 lb., $1**

Beets

Beets are one of the easiest of vegetables to grow, doing well in almost every type of garden soil except those too rocky or hard to allow proper root development. A rich sandy loam easily worked is ideal.

Of the many on the market the best varieties of beets for the ordinary garden are Detroit Dark Red, Market Gardener, Crosby's Egyptian and Early Wonder. Early Wonder is one of the quickest from seeding to harvest averaging in good soil and favorable climate about 42 days. The other varieties take from 45 to 50 days.

If you are to cultivate with a hoe or wheel hoe the rows should be 12 inches apart. Make the drills deep enough to allow the seed to be covered with an inch of soil. It is always a good method to sow beet seeds thicker than the final stand is to be and then thin out the plants enough to allow proper root development. Plant about 10 to a foot of row or about 2 ounces to a 100 foot row. It is advisable to use *crude naphthalene flakes* in the rows at the time of planting seed for protection against soil pests.

Cultivate frequently and deeply at first being careful not to disturb the young seedlings, however. When the plants get to be 4 inches high you must decide whether you finally want a great many with fairly small roots or fewer and larger ones. Thin to 2 inches apart if you want small roots and 5½ inches apart for the larger ones.

Beets are rich feeders and the soil should be correspondingly rich especially if quick growth is to be secured and it should be, slow growth means tough roots while quick growth means juicy and tender ones. A commercial fertilizer is advised for best results.

MANGEL WURZEL

Should be sown at the rate of 5 to 6 pounds per acre and thin to 10 inches apart in the row.

Mangels should be planted early in the spring in rows 2½ feet apart. The seed should be 1 inch apart in the rows and covered by 1½ inches of soil firmly pressed down. When plants are three inches high begin to thin until roots are 10 inches apart. One ounce of seed plants about 100 feet and 5 pounds to the acre.

P. S. Co. Heavy Cropper. One of the largest yellow Mangels. Easily pulled as it grows two-thirds above the ground. We recommend this variety because of its outstanding quality.
Pkt., 5c; oz., 10c; ¼ lb., 25c; 1 lb., 60c

Half Sugar Mangel. Double the yield of Sugar Beets. Roots large, smooth, cream white with few rootlets. Tops medium size.
Packet, 5c; oz., 10c; ¼ lb., 20c; 1 lb., 50c

Danish Sludstrup. Roots long, reddish yellow, good yielder growing well above the ground.
Packet, 5c; oz., 10c; ¼ lb., 20c; 1 lb., 50c

Other Varieties of Mangels. *Yellow Giant Intermediate* or *Gate Post*—Flesh white, grows half above the ground. *Golden Tankard* — Tankard shaped, flesh yellow zoned white. *Red Eckendorf*—Thick cylindrical, blunt, grows mostly above ground. *Yellow Eckendorf*—Same as Red Eckendorf aside from color. *Mammoth Long Red*—Roots large, slightly tapering, color light red, flesh white with rose tinge.
Packet, 5c; oz., 10c; ¼ lb., 20c; 1 lb., 50c

Sugar Beet

Sugar beet seed should be planted in early spring in rows 2½ feet apart, cultivate frequently. When plants are about 3 inches high begin thinning and continue at intervals until they are 10 inches apart. The best variety of sugar beets is the Klein Wanzleben. This variety is also used for stock. The White French or Filmore Improved Sugar is most generally grown for stock as it contains a heavy sugar yield. **Packet, 5c; oz,. 10c; ¼ lb. 20c; 50c.**

Brussels Sprouts

Brussels Sprouts are primarily a fall and winter vegetable. The plant will not mature properly in intense heat and dryness.

The plant is closely related to the cabbage and Brussels Sprouts in their early stages treated exactly like a crop of Late Cabbage. Seed sown in the seed bed out of doors in late May should be ready for transplanting to their permanent place in the garden the latter part of July. They should then be somewhat leggy plants 5 to 7 inches high.

Pinch off a few of the leaves and set out the plants about 18 inches apart in rows that are two feet apart. They should have a rich soil but most ordinary garden soil will grow good sprouts if the plants are top-dressed about two weeks after setting out with nitrate of soda at the rate of 1 pound per hundred feet of row.

Cultivate frequently especially after rains. Sprouts begin forming at the leaf bases of the lower leaves first. To stimulate their production it is a good plan to break off most of the lower leaves of the plants beginning about October 1st or when the buds develop. This also forces more food into the forming sprouts, the lowest of which should be picked first.

The best variety for the Northwest is the **Dwarf Improved Brussels Sprouts. Pkt., 5c; oz., 25c.**

Broccoli

In our write-up for Broccoli we are featuring the Italian variety because we believe it to be the best type for Northwest soil and weather conditions. Also, we feel that very few people know of this variety or have actually eaten it. If you come under one of these classifications we strongly urge you to plant some in your garden this spring.

Italian Broccoli is a branching herb about 2 feet high. In summer all of the lateral branches and the circle ones end in a small formed green more or less open head. This, which should be cut before it actually flowers, is cooked like Cauliflower or Spinach and is very delicious and rich in the vitamins.

The plant prefers coolness and moisture rather than heat and dryness. Unless you are in a particularly favorable place, that is along the sea coast, Italian Broccoli is best treated as a two season crop, first it is started in the hotbed or greenhouse in February or March and transplanted in the open after frost. Second crop is sown in the seed bed in June or July and transplanted to the garden a month or six weeks later. The later crop can be harvested through the cool autumn months.

When the seedlings that are grown in flats are ready to put out in the garden, they should be set 2 feet apart in rows which are themselves 2 feet apart. A single row of 50 plants is ample for a family of five. The plants do well in any ordinary garden soil but it should be seasonably moist. They are moderately rich feeders and commercial fertilizer should be applied before plants are put out. The bed should be kept free of weeds and well pulverized.

Packets, 5c; oz., 90c

Saint Valentine Broccoli is probably better known to most gardeners. This is very similar to Cauliflower and should be planted with the same cultural directions. In this type we also offer Early Large White French Broccoli.

Packets, 5c; oz., 90c

Kale or Borecole

This plant is widely grown for greens. Most varieties have heavy, densely curled foliage of tasty greens, and the dwarf variety is desirable for ornamental garden use. The culture is practically the same as that of late cabbage, but as the plants will withstand several degrees of frost, they grow late into the fall. They are more tasty after the first light frost.

Emerald Isle. Grows to medium height and is exceedingly hardy. Best for greens because of their very fine flavor. Produces new shoots as fast as leaves are used. The leaves are closely curled.

Packet, 5c; oz., 15c; ¼ lb., 45c; 1 lb., $1.25

Tall Green Curled Scotch. This variety grows about 2 feet high and has splendid dark green, curled and wrinkled leaves. It is very hardy and vigorous grower. Improved greatly after first slight frost.

Packet, 5c; oz., 15c; ¼ lb., 45c; 1 lb., $1.25

Dwarf Green Curled. Exceptionally fine for ornamental garden use, also good for greens. The leaves are beautifully curled and a brilliant green.

Packet, 5c; oz., 15c; ¼ lb., 45c; 1 lb., $1.00

Cow Kale or Thousand Headed. The most valuable green feed for Pacific Coast dairymen. It is grown the same as stock cabbage.

Packet, 5c; oz., 10c; ¼ lb., 20c; 1 lb., 50c, postpaid.

Imperator Carrot. An outstanding type bred for market garden use and for shipping. Tops medium but strong enough for good bunching. Roots 7½ to 8 inches long with sloping shoulders, smooth, deep rich orange, uniformly tapered to blunt end. Flesh rich orange, color extending to the center of the root with indistinct core, fine grained and of excellent quality.

Packet, 5c; oz., 15c; ¼ lb., 35c

DANISH BALL HEAD CABBAGE

Cabbage

Cabbage will not stand extreme heat or dryness and will grow well only where there is some moisture and coolness. Most good garden soil will produce satisfactory cabbage if it is properly enriched. Commercially it is grown on soil ranging from sandy loam to very heavy clay or even mulch. Perhaps what is more important than texture is soil moisture, this must be adequate and conserved by constant cultivation. Most important of all is fertility, no crop repays so richly the expenditure in fertilizer as cabbage. It is most advisable to use a commercial fertilizer that could be applied before planting, at the rate of 11 pounds to 100 foot row. You will also find that it will pay to top dress about three weeks after the plants are set out with Nitrate of Soda at the rate of 1¼ pounds to 100 foot row. The Nitrate of Soda application is necessary only for the early varieties.

Sow the seed in fine soil in flats during February or March. Do not make the soil too rich as it is likely to make the seedlings grow too fast and become lanky. Make small drills about ½ inch deep and 2 to 3 inches apart and put 6 to 8 seeds in each drill. Water often and keep an even temperature of 50 to 60 degrees.

When seedlings are 3 to 4 inches high replant further apart in flats or boxes. This insures stocky instead of spindling plants, and makes them a month or six weeks earlier than if the plants were set out. Cabbage is set at different intervals, depending upon variety—early varieties should be set about 14 inches apart in rows 28 inches apart. Late season varieties should be set 24 inches apart in rows 36 inches apart. If planted much closer they would be crowding and result in small heads.

Early types can be set out as soon as there is no danger of hard frosts. Late types, should, over most of the northern states, be placed by August 1st. It takes from 45 to 50 plants for a row 100 feet long.

Cabbages are divided into three groups—Early, Midseason and Late or Winter varieties.

EARLY VARIETIES

Early Jersey Wakefield. Small compact conical heads, plants small short stem.

Packet, 5c; oz., 25c

Copenhagen Market. Heads small, round, solid. Plants compact with short stems.

Packet, 5c; oz., 25c

Golden Acre. Earlier than Copenhagen Market. Heads are small, round and solid.

Packet, 5c; oz., 25c

Charles Wakefield. Producing larger heads than Early Jersey Wakefield but is a week later in maturing. Heavy yielder of fine quality. **Packet, 5c; oz., 25c.**

MIDSEASON VARIETIES

Stein's Dwarf Flat Dutch. Heads globular, solid. Plants are dwarf with short stems.

Packet, 5c; oz., 25c

Glory of Enkhuizen. Heads large, round, solid with few outer leaves. Excellent kraut cabbage.

Packet, 5c; oz., 25c

LATE OR WINTER VARIETIES

Packet, 5c; oz., 25c

Danish Ball Head. Most widely used type of late cabbage. Heads deep, round with hard, compact interior. Stubby with short stems.

Late Flat Dutch. Large, flat, solid heads. 6½ to 7 inches deep.

Other Varieties. Danish Round Head, Penn State Ball Head, Red Rock (red cabbage), Late Savoy, Wong Bock and Chinese Petsai—both Chinese cabbage.

Straight Eight Cucumber. As its name indicates, it grows very straight, a long, slender fruit with a slight taper at each end. The most desirable slicing cucumber you can plant. At the edible stage the length averages about eight inches and the color is an intense dark green. The fruits are smooth and medium early. **Packet, 10c; oz., 25c; ¼ lb., 75c.**

Carrots

DANVERS HALF LONG CARROTS

Carrot culture is very simple, the ordinary procedure is to sow the seed rather thickly in drills about ½ to ¾ of an inch deep the rows being 12 to 24 inches apart, depending on hand or machine cultivation. After the plants are up about 5 inches they should be thinned from three to four inches apart in the row. If the soil is rich there will be no trouble about root development. Young, tender, quick growing carrots are better flavored than old or slow growing ones which are fit only for stock feed. If the soil is not rich apply a good complete commercial fertilizer at the rate of 6 pounds per one hundred feet of row. It takes about 1 ounce of seed for a row of this length.

In order to have tender juicy carrots all season long it is advisable to make small sowings at regular two-week intervals up to the middle of July. Later sowings may not mature before the early frosts.

Carrots, like all root crops should be protected against soil insects such as maggots, worms and wire worms. This is best controlled by the use of Crude Naphthalene flakes. Sprinkls these flakes in the rows at the time of planting seed.

P. S. Co.'s New Coreless. Larger than all other varieties. Crisp, solid, and uniform in size. Truly the outstanding carrot for tasty, crisp vegetable salads during the hot summer months. A genuine stump-rooted type. Holds its color and cooks very quickly. **Packets, 5c; oz., 15c; ¼ lb. 35c.**

Danvers Half Long. Grown mainly for its productiveness and adaptability to all classes of soil. A fine quality carrot of uniform size and shape. Sweet, crisp, tasty and tender deep orange flesh. Exceptionally fine for "vegetable stew".

Packets, 5c; oz., 15c; ¼ lb., 35c

Chantenay *(Half Long)*. Well adapted for home gardens. Requires little cultivation and care. Ideal for lazy gardeners. Medium size tops, small necks, slightly tapering roots, stump-rooted and smooth. Deep orange flesh. **Pkts., 5c; oz., 15c; ¼ lb., 35c**

Other Varieties. Improved Long Orange, Oxheart, Early Scarlet Horn, Red Cored Chantenay, Early Scarlet Horn, French Forcing, Imperator.

Packets, 5c; oz., 15c; ¼ lb., 35c

STOCK CARROTS

Portland Seed Co.'s Yellow Giant. Especially adapted to wet, heavy soils. Half long roots, broad shoulder, growing half out of the ground. Bright yellow flesh. Producing a heavy crop that is most excellent for dairy cows.

Packet, 5c; oz., 15c; ¼ lb., 35c

Large White Belgian. One of the oldest and best known stock carrots. Roots 12 inches in length, producing a heavy yield of marvelous quality carrots. **Packet, 5c; oz., 15c; ¼ lb., 35c.**

Mastodon. Improved short white flesh, with smooth roots. Very heavy at shoulders, tapering. A heavy producing field carrot.

Packet, 5c; oz., 15c; ¼ lb., 35c

Celery

Successful celery culture is based on the right climate and the right soil. As to the first the plant requires coolness as well as sufficient moisture.

No garden crop grown is such a rich feeder as celery. The soil must have depth and mellowness and an abundant supply of moisture. It is impossible to grow celery in hard or sun-baked soil. It is advisable to prepare the seed bed with a good commercial fertilizer and peat moss using about 6 pounds per 100 foot row. This should all be done about three weeks before the plants are set in the garden.

In growing celery from seed it is advisable to start the seed in flats and later transplant when the small plants are approximately 5 inches tall.

Golden Self Blanching. Indeed, one of the best early spring varieties for Northwest gardens. The long, crisp stalks mature to a beautiful golden yellow, which are easily blanched to a creamy white.

Packet, 5c; oz., 50c

Golden Plume. Superior quality, vigorous growing. A favorite with home gardeners. Semi-dwarf in habit. Fine flavored stalks that are brittle, stringless and blanch quickly. **Packets, 5c; oz. 50c**

Winter Queen. Matures in the winter and spring. Very compact growth, with large heart. Stalks blanch to cream white. Ribs are solid, crisp and free from strings. **Packets, 5c; oz., 25c.**

White Plume. The very earliest known variety. Stalks are exceptionally crisp and tender with inner leaves and tasty white heart. **Packets, 5c; oz., 25c**

CELERIAC

The same culture as celery

Large Smooth Prague. The latest improved form with very few side roots. This is the largest and best variety of the "Turnip Rooted Celery."

Packet, 5c; oz., 25c; ¼ lb., 75c. Postpaid.

MT. HOOD SNOW BALL CAULIFLOWER

Cauliflower

Cauliflower is more difficult to grow than any other plant in the cabbage tribe, like most of them it will not stand heat and drought which limits its culture to areas free of these conditions. It is best grown in fairly cool climates where there is plenty of moisture. It will not, however, stand as much frost as cabbage or Brussels Sprouts and in very protracted warm weather it will not head. Like other members of the Cabbage family Cauliflower is divided into two groups, early varieties and the late varieties.

Soil and fertilizer conditions are the same as cabbage. It is advisable to use a good commercial fertilizer and to cultivate at regular intervals.

For quicker and better results it is advisable to start cauliflower in flats and later transplant when the young plants are about four or five inches tall. The plants should be set about two feet apart in rows three feet apart. This will allow approximately 50 head of Cauliflower to a 100 foot row. This should be more than ample for a family of five.

Solid white heads may be produced by tying the outer leaves over the center of the plant as soon as the first button-like swelling appears. Use string, tape or raffia for tying. Do not pull tight enough to injure outer leaves.

Portland Seed Co.'s Mt. Hood Snowball. One of the best early varieties that we highly recommend for early and late planting. Its pure white, fine quality heads of medium uniform size are exceedingly tasty. Popular with home gardeners as well as market gardeners. **Packet, 5c; oz., $2.00.**

Danish Giant. Outstanding because of its ability to yield heavily in dry weather. Its large, solid white heads mature very early if forced indoors during early growth. **Packet, 5c; oz., $1.50.**

Early Snowball. Adapted very well to forcing as well as outdoor planting. Plants are compact, producing medium to large, round heads that are pure white when blanched. **Packet, 5c; oz., $1.75**

Other Varieties. Large Algiers, Autumn Giant. **Packet, 5c; oz., $1.25**

Chicory

Witloof. This variety has become exceeding popular for winter salads. It forms a delicious dish when served like Endive or Cos lettuce with French dressing. The leaves and stems blanch easily. Seed should be sown one inch deep during May or June and spaced about 18 inches apart.

Packets, 5c; oz., 15c

Large Rooted. The roots of this plant are very popular as a coffee substitute. The young tender leaves may be used for salad or cooked for greens. Sow quite thinly in shallow drills in the spring. When well started, thin to stand 2 to 3 inches apart in the row. **Packet, 5c; oz., 15c, postpaid.**

Chives

The famous Schnittlauch—highly prized for flavor. The seed of this is not easily germinated and it will be necessary, therefore, to plant a fairly good quantity of the seed if many plants are desired.

Packet, 5c; oz., $1.00, postpaid

Swiss Chard

Only the tops of this beet are used, like spinach, and the succulent stalks and midribs may be prepared in the same way as asparagus. The plants are cultivated like beets except that they should be thinned to 8 to 10 inches apart. If only the outer leaves are gathered, the inner leaves will continue to grow, and repeated pickings can be made.

Lucullus, Dark Green. The fleshy crumpled leaves of this variety make very choice greens. Plant grows erect, the stalks are rounded and finely ribbed; the foliage is a rich deep green. Favored by many because of its superior flavor.

Packet, 5c; oz., 15c; ¼ lb. 35c; lb., $1.00

Utah or Green Crisp Celery. Matures a week or ten days earlier than most other types of celery. Plants are sturdy, compact, and solid. Stems are broad, thick and rounded.

Packets, 5c; ounce, 50c

Corn

Corn is truly a native of this country, developed before the new world was discovered. It can be raised with some success in every state in the union, however, for best results it requires a growing season of seventy to eighty days and with plenty of summer heat.

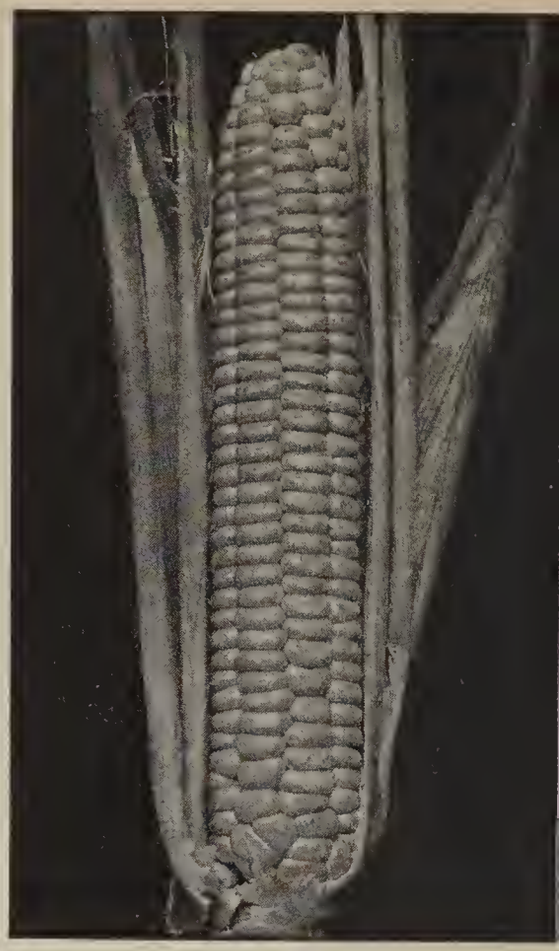
Any good garden soil will grow corn but it will mature quicker and be more tender if a good commercial fertilizer is used at the rate of about 11 pounds to a 100 foot row.

Generally speaking, it is better to plant the early varieties in drills and the later varieties, of course, in hills, so spaced that cultivation may be done both ways without disturbing the plants. If your garden is of the weedy sort it is better to plant all varieties in hills because it is thus possible to control weeds easier when plants are in long rows.

For the early types make the drills 2 to 2½ feet apart and 1½ inches deep. For growing in rows put a seed every 3 inches in a drill with the expectation of thinning to 6-inch intervals as soon as possible. The thinned plants cannot be transplanted with any success. **Packet, 10c; ½ lb., 20c; 1 lb., 30c, postpaid.**

YELLOW VARIETY

Golden Bantam. This variety of corn is second to none for tender, sweet and juicy ears. Although not as early as some types, its exceptionally fine quality makes it well worth waiting for. Stalks about 5 feet tall. Eight straight rows of kernels to the cob.



GOLDEN BANTAM CORN

Improved Golden Bantam. An improved strain over the old type Golden Bantam, however, we still recommend the old fashioned variety for Northwest conditions. This newer strain has ten rows of kernels to the cob.

Golden West. A very fine early variety. Much the same flavor and tenderness as Golden Bantam and exceedingly popular with market gardeners. Ten to twelve rows to the cob.

Early Sunshine. One of the early varieties of sweet corn. Matures 3 or 4 days earlier than the majority of others. Taller and more vigorous with 12 rows to the ear.

Other Varieties. Golden Giant, Golden Evergreen.

WHITE VARIETY

Stowell's Evergreen. Remarkable for remaining in a fresh condition for a long period. Plants 7 to 7½ feet tall. Ears 8 inches long, 2¼ to 2½ inches thick; 14 to 20 rows to the cob. The most popular white variety of sweet corn.

Oregon Evergreen. Earlier than Stowell's and just as fine and sweet. An exceptionally fine canning variety because of its uniform medium to large ears with 12 to 18 rows.

Other Varieties. Early Portland Market, Country Gentleman, Black Mexican, Early Evergreen, Early Minnesota, Howling Mob, Peep o' Day and White Cory.

FIELD CORN

We offer the following varieties: Minnesota "13", Oregon Yellow Dent, Pride of the North, Northwestern Dent, Champion White Pearl, White Flint, Wisconsin White Dent and King Philips. We will gladly quote prices on inquiry.

POP CORN

Butter Crisp. The kernels of this variety pop out large and fluffy and resembles buttered pop corn because of its creamy color.

Packet, 10c; one pound, 30c

White Rice. The standard variety for many years. Kernels pop out large and snowy white. Exceedingly well flavored.

Packet, 10c; one pound, 30c

NEW 3 IN 1 Corn Here is an ideal new corn for the home gardener. One planting gives 3 different ripening times. Two weeks between each group. Be sure to try some of this 3 in 1 corn. **Packet, 15c; ½ lb., 25c; 1 lb., 40c.**

Golden Cross Bantam. This hybrid is undoubtedly one of the best and most prolific of the yellow sweet corns. The ears are 8 to 10 inches long with 14 to 16 rows of kernels, slightly lighter in color and yielding about 40% more marketable ears than Golden Bantam. Grows 5 to 6 feet high with sturdy stalks and deep green foliage.

Packet, 10c; ½ lb., 25c; 1 lb., 40c

Cucumbers

All Cucumbers—Pkt., 5c; oz., 15c, postpaid

Gardeners with limited space cannot afford to plant cucumbers, which for outdoor culture must be planted in hills at intervals of at least 4½ feet each way. The plant is a sprawling tendril-bearing vine. It requires considerable heat, a lot of moisture and a rich soil. Cucumbers are much more sensitive to frost than most vegetable crops. They can only be grown in regions that not only have plenty of heat but a frost-free period of 75 to 90 days.

Warm sandy loam especially if it has a gentle slope southward is the best soil for out-door cucumbers. No other method of fertilizing is so satisfactory as putting 2 quarts of thoroughly rotted manure under each hill or a scant wheelbarrow load is better. Broadcasting manure or fertilizer for plants spaced so far apart is merely wasteful.

See that the manure is covered sufficiently so that no seed touches it. This is easily accomplished by forming a circular hill about a foot wide and 4 inches deep over each lot of buried manure, the site of which had better be marked with a stick, if some days intervene between burying and planting time.

Planting cannot be done until warm or hot weather is assured. Plant six seeds to each hill expecting to reduce them to three as soon as germination is complete, selecting the three best plants. The seed should be planted about 1½ inches deep.

As the vines become large they will fill all of the space between the hills, so it is very important that you cultivate thoroughly while the plants are still young. **Packet, 5c; oz., 15c.**

Diamond Long Green. Truly the outstanding of the large varieties. It is extremely crisp and tender, sweet, very fine for slicing. It is best for sweet pickles when matured. **Packet, 5c.**

Improved White Spine. An outstanding variety for table use. It is one of the early types and exceedingly tasty. Uniformly straight and handsome light green fruits, with a few white spines.

Packet, 5c

Boston Pickling or Green Prolific. Truly the finest and most popular pickling variety. The tasty, bright green fruits range from 4 to 5 inches in length and are exceedingly productive. Fine for home and market. **Packets, 5c.**

Davis Perfect. A vigorous grower. Fruits long, dark green, crisp and tender. Holds its color exceedingly well after picking, which makes it a favorite with the market gardeners. Seed cavity is small, making them very desirable for home and market uses. One of the outstanding varieties for Northwest climate.

Colorado. Cucumber Colorado won the All American 1935 Award of Merit and is destined to become one of the most popular varieties. One of its outstanding qualities is that it does not taper but is practically the same size from end to end. The fruits are dark green, 9 to 12 inches long and will yield more slicing cucumber than any other variety of approximately its size. Is highly recommended for the shipper and market garden.

Other Varieties. Short Green or Early Frame, Lemon, Japanese Climbing, Small Gherikn, Deltus, Vaughn.

Cress

True Water Cress. A very distinct variety of cress with tasty, small, oval leaves. Grown easily in shallow ponds or along the edges of small streams. Excellent for all kinds of salad.

Packet, 5c; oz., 45c; ¼ lb., $1.50. Postpaid

Curled or Pepper Grass. Its leaves have a very pleasant pungency, which gives it the common name "Pepper Grass." The spicy foliage is frilled or curled making it very attractive for salad trimmings. Sow thickly in drills.

Packet, 5c; oz., 15c; ¼ lb., 45c. Postpaid

Endive

Culture similar to lettuce. Outer leaves should be tied over the head to bleach.

Packet, 5c; oz., 10c; ¼ lb. 35c. Postpaid

Egg Plant

Black Beauty. Extra early, quick growing, vigorous variety, uniform size. Color deep, blackish purple. Excellent for market.

Packet, 5c; oz., 60c; ¼ lb., $1.75. Postpaid

New York Improved Large Purple. Leading market variety. Not quite as early as Black Beauty. Large and productive.

Packet, 5c; oz., 60c; ¼ lb., $1.75. Postpaid

Fennel

Florence Fennel. An Italian vegetable with thick leaf stem. Served boiled or sliced, also cooked in soups. Easily grown.

Packet, 5c; oz., 25c. Postpaid

Leek

American Flag. Used very extensively throughout the entire country. A very strong hardy grower that is very easily cultivated in the home garden. It is broad leaved, with rather short but very thick stems.

Packet, 5c; oz., 25c; ¼ lb., 75c. Postpaid

Large Rouen. A very hardy variety, with short, thick, well-blanched stems and dark green leaves.

Packet, 5c; oz., 25c; ¼ lb., 75c. Postpaid

Herb Seed for Planting

ANISE. Used as a cordial and for garnishing and flavoring. Seeds have an agreeable aromatic taste. **Pkt. 10c; oz. 35c**

BALM. Leaves are fragrant and are used as a tea for fevers. **Pkt. 10c; oz. 50c postpaid.**

BASIL (Sweet). The leaves are used for flavoring soups, stews and highly seasoned dishes. **Pkt. 10c; oz. 50c.**

FENNEL (Sweet). The boiled leaves are used in sauces. **Pkt. 10c; oz. 30c.**

HOREHOUND. Leaves used for seasoning. **Pkt. 10c; oz. 75c.**

HYSSOP. Used as a stimulant and a mild tonic. **Pkt. 10c; oz. 75c.**

BORAGE. The leaves are used for flavoring and the flowers furnish bee pasture. **Pkt. 10c; oz. 50c.**

CARAWAY. Grown for the seeds, which are used extensively for flavoring of bread, pastry, etc. **Pkt. 10c; oz. 25c**

CATNIP or CATMINT. The leaves are used for seasoning. It also makes an excellent bee pasture. **Pkt. 10c; oz. $1.00.**

CORIANDER. The seeds are used in the manufacture of liquors and confectionery. **Pkt. 10c; oz. 25c.**

DILL SEED. For planting. **Pkt. 10c; oz. 20c; ¼ lb. 50c postpaid.**

MARJORAM (Sweet). The leaves and the ends of the shoots are esteemed for seasoning in summer and are also dried for winter use. **Pkt. 10c; oz. 75c.**

ROSEMARY. The aromatic leaves are used for seasoning. **Pkt. 10c; oz. $1.00.**

RUE. For medicinal purposes. **Pkt. 10c; oz. 50c.**

SAGE. The most extensively used of all herbs as a seasoning for dressing. **Pkt. 10c; oz. 75c.**

SUMMER SAVORY. A hardy annual. The dried stems, leaves and flowers are extensively used for flavoring, particularly in dressings and soups. **Pkt. 10c; oz. 75c.**

THYME. Used for seasoning. **Pkt. 10c; oz. $1.00.**

WORMWOOD. Used medicinally and is beneficial for poultry. **Pkt. 10c; oz. 50c.**

TRUE LAVENDER. Used chiefly in the manufacture of perfumery. **Pkt. 10c; oz. 75c.**

Herb Seed for Flavor

ANISE. For flavoring. ¼ lb. 15c; lb. 30c postpaid.

CARAWAY. For flavoring. Oz. 10c; ¼ lb. 20c postpaid.

CELERY. For flavoring. Oz. 10c; ¼ lb. 20c postpaid.

MUSTARD.. For flavoring. Lb. 20c postpaid.

PARSLEY. For flavoring. ¼ lb. 10c; 1 lb. 35c postpaid.

POPPY. For flavoring. ¼ lb. 10c; 1 lb. 35c postpaid.

Lettuce

Crisp, tender lettuce, the most desirable of all salad plants. Can best be grown with the strictest attention to its moisture, soil and climatic requirements. There are many varieties and types of lettuce, however for the home gardener we can segregate them into two varieties, namely, head variety and looseleaf variety. The first is by far the most desirable but the most difficult to grow. The second is less desirable but so much easier to grow that most beginners will do well to select one of its varieties.

Lettuce can easily endure several degrees of frost especially in the seedling stage which greatly facilitates the handling in the early spring. However this popular vegetable cannot be grown in extreme heat.

SIMPSON'S EARLY CURLED LETTUCE

Any good garden soil will grow lettuce of a sort but the most favorable soils are rich sandy loam. Some varieties like Grand Rapids do best on good heavy soils with considerable clay in them. Lettuce soils should not be acid, if they are in this condition they should be limed. However, more important than the texture of the soil is the problem of moisture. If this is not available do not attempt to grow this vegetable.

HEADING VARIETIES

Packet, 5c; oz,. 15c

Portland Seed Co.'s Crispette. Heads are large, firm, crisp and tender. Bright green, curly leaves cover the outside. Solidity of the heads is insured by the large, white main ribs of leaves which curve toward the center. Withstands hot weather far better than most varieties and exceedingly tasty.

New York or Wonderful. The best head lettuce for market gardeners. It's large, very solid, tender, crisp and sweet. Beautifully blanched to a creamy white with bright green outer leaves. A very hardy and rapid grower, also, deep rooted. **Packet, 5c.**

Hanson *(Improved Hard Heading Stock).* One of the very best. The heads are green on the outside and cream colored on the inside. It withstands the hot sun very well, and stays crisp for quite some time. **Packet, 5c.**

Other Varieties. Brown Dutch, New York 12, Big Boston.

LOOSE-LEAF VARIETIES

Packet, 5c; oz., 15c

Grand Rapids. This variety is the standard hothouse lettuce for forcing. It also does exceedingly well in the open ground. The leaves are light yellowish green, slightly crimped, crisp and tender. **Packet, 5c**

Simpson's Early Curled. Very fine for early planting and forcing. The leaves are finely curled and wrinkled. It is very tasty and crisp and does not wilt readily. **Packet, 5c.**

Black Seeded Simpson. The leaves form a close, compact mass. Yellowish green color and exceedingly curly. Very early cultivated. **Packets, 5c**

Other Varieties. Chicken Lettuce, Prizehead.

Melons

The term melon, as commonly used, includes the fruits of two distinct types, namely the Muskmelon or Cantaloupe and the Watermelon. Both of these types require hot weather during the day and warm evenings in order to fully ripen the fruit. We do not recommend growing melons in the Western section of the Northwest, however, there are certain types that do fairly well in this section.

Melons thrive on a well-drained fertile soil; for early crops a light, sandy loam is preferred. Excessive alkali should be avoided. Manures or fertilizers are not generally used in the principal producing regions, the fertility being maintained by rotation and the use of green manure crops. However, where this is not available, it is advisable to use a good commercial fertilizer in a mild manner.

In growing melons it is necessary to allow a great deal of room for spreading vines. The seed may be planted as soon as the ground is warm and weather conditions permit. The hills should be approximately 6 feet apart.

WATERMELONS

All Watermelons—Pkt., 5c; oz., 15c, postpaid

Klondike. Rind is a beautiful dark green and exceptionally thin. The interior of the melon is a distinctive flesh color. Grow uniform in shape and size and ship very well.

Sweetheart. The vines are vigorous and productive. Fruits are large, oval, heavy mottled, dark and bright green, rind thin, flesh bright red, firm, sweet and tender.

Kleckley's Sweet or Monte Cristo. Distinctly a home garden melon as the dark bluish-green rind is so crisp that it breaks easily. The long, oval fruits are slightly larger near the blossom end. They weigh from 25 to 30 pounds and ripen in a little over one hundred days. For home gardeners we highly recommend this variety.

Black-Seeded Ice Cream. The melon is almost round, with a thin rind of medium green. The inside flesh is pink and exceptionally sweet and fine flavored. This variety matures early and is a fine keeper.

Other Varieties. Rattlesnake, Stone Mountain, Tom Watson, Irish Grey, Cole's Early, Black-Seeded Chilean.

MUSKMELONS

All Muskmelons—Pkt., 5c; oz., 15c, postpaid

Sugar Rock. The fruits are oval, large size, without ribbing and netted in the manner characteristic of these melons and from which they take their names. Matures in about 85 days from sowing seed, in ordinary weather conditions. The flesh is deep and thick, a beautiful orange color, with a sugary delicious flavor that is unexcelled.

SUGAR ROCK MUSKMELON

Hearts of Gold. The rind is firm and densely netted. Rich, fine-grained, orange colored flesh is excellent in flavor. The seed cavity is small and in all the melon is a very fine shipper.

Rocky Ford Pollock 10-25. The fruits are uniform and heavily netted. The flesh is very sweet and tasty with a salmon-orange tint.

Other Varieties. Burrel Gem, Large Yellow Cantaloupe, Small Green Nutmeg, Osage or Miller's Cream, Early Hackensack, Hale's Best, Honey Dew Pink Flesh, Honey Dew Green Flesh, Perfecto, Speer, Banana, Persian.

CASABA MELONS

Golden Beauty. A beautiful bright golden yellow, wrinkled skin. The fruits are globular shaped and mature very early. The flesh is white and very thick. Exceedingly tender, rich, juicy and "honey sweet." **Packet, 5c; oz., 15c, postpaid.**

Onions

There are two types of onions that are most commonly grown by home gardeners—the young green or bunching onions and the mature bulb or dry onion. Green, or bunching onions, may be produced from seed, sets or multiplier bulbs. The set method is generally used among most home gardeners for the earliest green onions. However, the seed method produces a much better quality of onion and is the common method among the market gardener trade.

Dry onions may be produced from sets, but they are usually rather poor quality and very poor keepers. We therefore recommend, wherever it is possible, growing onions from seed.

Onions require a rich, well drained soil, but any good garden soil will be satisfactory so long as it is not too stony. To be sure that the soil is rich enough, use a pound of well rotted manure to each square foot, and in addition use four or five pounds of commercial fertilizer to each 100 square feet.

RIVERSIDE SWEET SPANISH

ONIONS—Continued

The soil must be moist, as the plants will not thrive in dry sites. Onions are grown successfully in nearly all but the desert states, but they thrive best in the comparatively cool sites.

Oregon Yellow Danvers. Bulbs large, half globe, small neck, with thin brownish skin. Flesh firm, white and fine grained. Ripens early and a good keeper. **Packet, 5c; oz., 20c, Postpaid.**

White Bunching. Outstanding for green onions. The young sprouts are crisp and mild, attaining a good size before the bulb forms. **Pkt., 5c; oz., 20c**

Riverside Sweet Spanish. A large globe shaped brown onion, weighing one to three pounds. Flesh mild and sweet. **Packet, 5c; oz., 20c.**

Crystal Wax Bermuda. Medium size, pure waxy white. One of the mildest sorts grown. **Packet, 5c; oz., 20c**

Other Varieties. Australian Brown, Prizetaker, Yellow Globe Danvers, Large Red Weathersfield, White Portugal, Yellow Bermuda, and Bottom Onion sets.

Okra or Gumbo

Grown for its green pods, which are used in soups, stews, etc., for their rich flavor and substance.

Improved Dwarf Green. Very early, with long green, slender pods.

Packet, 5c; oz., 15c; ¼ lb., 35c. Postpaid

White Velvet. Large pods, smooth or very slightly ribbed. Remains tender a long time.

Packet, 5c; oz., 15c; ¼ lb., 35c. Postpaid

Parsley

Packet, 5c; oz., 15c, postpaid.

Plain. Plain leaves, flat, dark green. Used for flavoring and drying.

Turnip Rooted or Hamburg. Roots used for flavoring soups, stews, etc.

Extra Double Curled. Dark green, moss-like leaves, finely curled.

Parsnips

CULTURE

Culture same as for carrots. May planting considered best.

Hollow Crown or Long White. Long, white, smooth, tender, sugary, excellent flavor. Very hardy. Will keep through the winter without protection. **Packet, 5c; oz., 15c, postpaid.**

Peppers

Continuous warm weather for best results. Seed should be started in hot beds as it is slow in germinating. Set plants in ground when about 2½ inches tall. A moderate dressing of guano, or commercial fertilizer, hoed into the soil after plants are well established, will give better results.

All varieties of Peppers: Packet, 5c; 1 oz., 60c, postpaid.

OTHER VARIETIES

Perfection Pimento.
Large Bell or Bull Nose.
Cayenne.
Chinese Giant.
Ruby King.
Chili.
California Wonder.

Pumpkins

Pumpkins are grown much the same as melons, but are less sensitive to cold weather. They are best after the first light frosts, usually during the months of October and November. Seed should be planted during the early part of May, in hills 6 to 8 feet apart in all directions. Every garden should have a few hills of this truly American vegetable.

All varieties of pumpkins: Packet, 5c; 1 oz., 15c, postpaid.

Large Yellow or Connecticut Field. Large, round. Deep, glossy yellow. Very productive. Good keeper. Grown extensively for stock feeding.

Giant of All ("King of Mammoths"). Almost a globe in shape. Skin a rich golden yellow, flesh firm, fine grained and deep yellow, sweet flavored, very thick. Excellent quality.

Winter Luxury. The best flavored pie pumpkin grown. Excellent keeper. Medium size. Color golden russet, finely netted. Flesh deep golden, sweet, tender and very thick.

Sweet or Sugar. A productive small pumpkin. Skin orange, flesh deep yellow, fine grained. Very sweet. The famous "New England Pie Pumpkin."

Rutabaga or Swede

Improved American Purple Top. The leading variety. Large, immense yielder. Superior in every way.

Packet, 5c; oz., 15c; ¼ lb., 25c; 1 lb., 75c. Postpaid.

Salsify or Vegetable Oyster

Mammoth Sandwich Island. Roots large, smooth, very hardy. May remain in ground during winter or be stored in dry earth or sand.

Packet, 5c; oz., 20c; ¼ lb., 55c; 1 lb., $2.00. Postpaid.

Peas

The garden pea combines two features of great value. It is not only very nutritious and rich in Vitamins A, B and C but provides many advantages of clean vegetable, hence, its first great importance as a garden crop. For best results this crop is grown in a cool mild climate.

Peas do well on practically all types of garden soil. Best results may be obtained by using a good commercial fertilizer at the rate of 4 pounds per 100 foot row. Also for a better crop it is advisable to inoculate with Nitragin.

Almost no garden crop is so easy to start as peas. Peas of the low sort should be planted just as early as the ground can be worked. You need not wait for the last erratic late frost. Sowing pea seeds should be practically the first spring activity in the vegetable garden. Tall varieties are better planted about ten or fifteen days later than the lower sorts.

For the first planting of the low varieties make the drills about two inches deep, or 1 inch deep if the soil is heavy and has much clay in it. Later planting should be in drills about twice this depth but only half filled at first. As the plants grow the trench is gradually filled up. The object of this deeper drill for the later planting is to secure greater coolness and moisture for the roots and plants that will have to face greater heat.

Peas need only sufficient cultivation to keep down weeds.

EARLY VARIETIES

All Peas—Packet, 10c; ½ lb., 20c; 1 lb. 30c, postpaid.

Alaska. Height of vine 30 inches. Pods 3 inches long, blunt, straight, light green, containing 6 to 8 peas, good quality—used extensively for canning.

Gradus. Height of vine 36 inches. Pods 4 inches long, broad, plump, pointed, medium green, containing 8 to 10 sweet delicious peas.

Laxtonian. Height of vine 18 to 20 inches. Pods 4½ inches long, broad, slightly curved, pointed, deep green containing 7 to 8 large succulent peas.

American Wonder. Height of vine 14 to 16 inches. Pods 2½ to 3 inches long, blunt, straight, light green containing 6 to 7 peas.

Dwarf Gradus. Height of vine 28 inches. Pods 3½ to 4 inches long, broad, plump, pointed, medium green containing 7 to 8 large tender peas.

Little Marvel. Height of vine 18 inches. Pods 3 inches long, blunt, plump, dark green containing 7 to 8 tender peas.

Premium Gem. Height of vine 20 to 22 inches. Pods 2¾ to 3 inches long, round, straight, blunt, light green containing 6 to 7 peas of good quality.

World's Record. Height of vine 30 inches. Pods 3½ to 4 inches long, broad, plump, pointed, containing 7 to 8 large tender peas.

Thomas Laxton. Height of vine 30 to 36 inches. Pods 3½ to 3¾ inches long, plump, broad, blunt, medium green containing 7 to 8 large tender peas.

Laxton Progress. Height of vine 18 to 20 inches. Pods 4½ to 5 inches long, broad, some with curved, pointed, medium dark green containing 7 to 9 large tender peas.

LATE VARIETIES

Tall Telephone. Height of vine 40 inches. Pods 4½ to 5 inches long, broad, plump, straight, pointed, dark green containing 8 to 10 peas of highest quality.

Alderman. Height of vine, pods and color same as Tall Telephone.

Stratagem. Height of vine 26 inches. Pods 4½ inches long, ⅞-inch wide, nearly round, straight, pointed, dark green containing 8 to 10 tender, succulent peas.

Dwarf Telephone. Height of vine 22 inches. Pods 4½ inches long, broad, slightly curved, pointed, containing 8 to 10 peas.

OTHER VARIETIES OF PEAS

Blue Bantam, Hundredfold, Dukes Delight, Champion of England, Dwarf Grey Sugar, Yorkshire Hero.

Klondike Striped Watermelon. A most attractive melon in both outside appearance and especially when cut. The rind is tough, hard and fairly thick. The color is light green with irregular dark green stripes. It does not show sunburn and has proven very desirable for shipping. The size is convenient, the flesh is scarlet and sugar content is higher in the Klondike than in any of the other watermelons. Its edible qualities are truly delicious. This strain has black seeds, splotched and striped with brown at the edges.

Packet, 5c; oz., 15c; ¼ lb., 40c

Radish

All Radishes—Packet, 5c; oz., 15c.

This is the easiest of all vegetables to raise and no garden is complete without at least one or two varieties.

The common Radish will germinate in four to days and if grown properly will have useful roots ready to harvest in twenty-eight to thirty days. If it takes longer than this the roots will be spongy, acid or woody, hence useless. The secret of getting crisp, delicious radishes is quick growth; for this they need a rich mellow soil. Sow the seed about one-third of an inch deep in drills not over 8 to 12 inches apart.

All through the spring a succession should be sown every ten days. Keep in mind that an old radish is a worthless one and being harvested as soon as possible, they must be quickly grown and of course kept thoroughly cultivated. It is advisable to use crude Naphthalene flakes in the soil at the time of sowing seed. This will protect the crop from soil insects such as maggots and worms.

Early Scarlet Turnip. White Tipped. Turnip shaped roots tipped with white. Flesh white, crisp, tender and sweet. Tops small. Matures very early.

French Breakfast or Half Long. Excellent for both home and market gardening. Tops small, roots oblong and blunt. Scarlet with white bottoms; flesh white, crisp and sweet. Splendid quality.

Early Scarlet Globe. Matures very early. A bright carmine-red color. Perfect oval shape and ideal size makes this an excellent radish for market. They reach this size in about 25 or 30 days and are best when not quite full grown. Sweet, crisp and tender flesh of the highest quality.

White Icicle. A popular white radish. Roots long, clear, white, especially mild.

Other Varieties. Early Scarlet Turnip, Long Black Spanish, China Rose Winter, Crimson Giant.

Spinach

All Spinach—Packet, 5c; oz. 15c.

Spinach is a cool season annual, grown for greens. No spinach will stand extreme summer heat without "shooting" seed stalks. For this reason the seed must be sown early in the spring or late in summer to avoid the danger of the crop maturing in July or August. For spring and summer use sow as early as the ground can be worked and make successive plantings every two weeks until May 15th. The leaves will be ready for use four or five weeks after sowing. For Autumn use, sow seed about August 1st. Spinach will grow very large and can be cut from the first of September until the ground freezes.

Improved Thick Leaf. Believed by many as the finest spinach on the American market today. It is the largest-leaved spinach grown and is exceedingly crisp, tender and tasty. It grows rapidly and remains in good condition a long time, making it fine for market. The medium-green leaves are large, rounded, slightly crumpled, succulent, and tender.

New Zealand. Thrives in hot weather in any soil. Leaves comparatively broad and pointed. Will grow through the summer.

Prickly Winter. Hardiest variety. Must be sown in the fall. Seeds prickly. Leaves long, pointed, thick and succulent.

Other Varieties. Nobel Giant Leaved, King of Denmark, Long Standing.

Kohl-Rabi

This is a minor member of the cabbage tribe, the erect stem of which is swollen just above the ground level. The swollen part, while still tender and juicy has a fine flavor liked by some, but later it becomes hard, bitter, almost woody, and useless. Kohl-Rabi is closely related to the turnip and by some considered superior.

Its culture is exactly the same as for early cabbage. Kohl-Rabi is set 8 inches apart in the row and the rows can be 18 inches apart.

Whether early or late crops are grown, it is important to secure quick growth and cut the whitish thickened stems before they become tough and woody. The plant will not stand a great deal of heat.

Early White Vienna. This is the best table variety and matures very early. If used for table it is the tastiest when the bulbs are 2 inches in diameter. The plants are light green with white flesh of excellent quality. **Packets, 5c; oz., 20c.**

Early Purple Vienna. Standard early sort. The plants are small, with dark green leaves spotted with purple. The exterior is purple, but flesh is White. **Packets, 5c; oz., 20c.**

FERTILIZED GARDENS
GROW MORE TASTY,
TENDER VEGETABLES

Squash

Whatever type of squash is grown, they must be treated as extremely tender annuals, especially the winter and autumn varieties, which in some northern regions will ripen their fruits uncertainly, due to lack of heat and a short growing season. There is generally, except in the coldest regions, no difficulty about raising summer squashes, but all sorts repay quick growth and plenty of heat.

If you have space and prefer to grow the vine-like forms, the hills should be at least 8x8 feet apart, but if space requirements make the bush forms imperative, and they are far easier to grow, cultivate and harvest, the hills can be about 30 inches apart each way.

It is useless to put squashes in a heavy, wet soil, for they grow too slowly in such places. It is better to select a warm sandy loam, upon which they thrive if it can be made rich enough. Being spaced so far apart, there is no use in a program of general soil enrichment for squashes, but every reason for concentrating the fertilizer under the hills. A good plan is to dig out about 2 feet of indifferent soil and fill in with a half-and-half mixture of sandy loam and well-rotted manure. Or if this is lacking, mix about 1 pound of a good complete commercial fertilizer with the soil.

For the summer squashes, unless your soil warms up very slowly, the seed should be planted directly in the hills, 4 to 5 seed to a hill, which should ultimately be thinned to 2 or 3 plants, depending upon their vigor and ravages of cut worms. It will help greatly if Naphthalene Flakes are used at the time of planting.

For the winter squashes or for any that have long, sprawling vines, it is better to start them in the hotbed, as outlined above, if you live in a region with a short growing season. Otherwise, some of the late fruits will be caught by frost before maturity. In any case, the vine-like ones should be watched to see that all the growth does not run to vine and leaf at the expense of fruit. This is especially likely in rich soils or in one that gets extra top-dressing of fertilizer. By keeping vines well pinched back it will develop better fruits.

All Varieties Squash—Packet, 5c; oz., 15c; ¼ lb., 35c, postpaid.

WINTER VARIETIES

Improved Hubbard Squash. Large and of warty Hubbard type. Shell dark green, hard, moderately warted. Flesh light orange, very dry and richly flavored. One of the best winter squashes.

Banana Squash. One to two feet long. Flesh firm, orange yellow. Rind smooth, greyish green color. Excellent flavor and splendid keeping qualities. **Packet, 5c; oz., 15c.**

Golden Hubbard Squash. Same in size, shape and quality as the green Hubbard, except that it is bright red or golden color and somewhat earlier. Excellent keeper. **Packet, 5c; oz., 15c.**

Table Queen Squash. Small, dark green, acorn shape. Flesh rich yellow, dry, richly flavored. Medium early. A good keeper. **Packet, 5c; oz., 15c.**

Other Varieties of Winter Squashes: Boston Marrow, Mammoth Chili, Sibley or Pike's Peak and Warty Hubbard.

SUMMER VARIETIES

Cocozelel or Italian Marrow. Skin dark green, becoming marbled with yellow at maturity. Flesh pale green, thick, firm and tender. Best when 5 to 6 inches long. **Packet, 5c; oz., 15c.**

Early Summer Crookneck. Earlier and larger than ordinary crookneck. Skin yellow, thin, hard and warty. Flesh tender and of good quality.
Packet, 5c; oz., 15c

White Bush Scallop. Early, medium size, somewhat flattened with creamy white skin. Flesh milk white, firm and richly flavored. **Packet, 5c; oz., 15c**

Turnips

All Varieties Turnips—Packet, 5c; oz., 15c; ¼ lb. 25c.

Turnip seed sown about the last week in July or early in August will provide a crop when they are most wanted in the late fall and winter. The plant is a biennial and if left in the ground all winter will bloom and set seed the following spring. However, we do not recommend this as the second growth plants are not hardy and many times register a crop failure.

The seeds should be sown in drills about ¾-inch deep and thickly enough so that the plants can be thinned to 5 or 6 inches apart. For hoeing or a wheel cultivator, keep the rows about 15 inches apart.

The plant does best in the loose open loam, and the product is much better if quickly grown. While it is primarily a late fall and winter vegetable very early varieties have been developed which may be sown as soon as the ground can be worked in the spring. Such can be harvested in the early summer, and should be, because if left in the ground they will go to flower and the roots are then soon useless.

Cultivate as for any other root crop, being careful not to injure young roots with tools. The plant responds to rich soil, but top-dressing with nitrate of soda should be avoided. If necessary, use any well-balanced commercial fertilizer, working it in between the rows about 5 weeks after the seed is planted. The turnip is a cool season crop and does not like hot dry regions.

Purple Top White Globe. Large, globe shaped. Purple on top, white below. Excellent quality and highly recommended for home use as well as field crop. **Packet, 5c.**

Purple Top Strap Leaf. An early variety. Roots medium size, flat. Purple above the ground, white below. Flesh white, firm but tender and may be used for table or stock feeding. **Packet, 5c.**

Golden Ball. Medium size, round and yellow. Flesh firm, hard and most excellent flavor. Keeps well and a fine table variety. **Packets, 5c.**

Other Varieties: Early Flat White Dutch, Early White Milan, Early Snowball, Early Purple Top Milan, Pomeranian White Globe, White Egg, Yellow Aberdeen, Cow Horn, Bortfield.

Tomatoes

All Varieties Tomatoes—Packet, 5c; oz., 35c; ¼ lb. $1.00.

The tomato is perhaps more tender than any other garden plant in such general culture. It is blackened by the least touch of frost, and will grow well only where there is sufficient heat. However, while many home gardeners will prefer to buy potted plants at the time they should be planted out, there is little need to do this, for tomatoes are among the easiest of vegetables to raise from seed. In your calculations for the early varieties, allow 7 to 8 weeks from the time of sowing seed to the proper date in your locality for setting the plants in the garden.

The seed should be sown in fine, not too rich soil, about ¼-inch deep, either in tiny drills or broadcast as you prefer. Keep the soil moist but not wet. When the seedlings are about 2½ inches high, brick them out and replant on 2x2 inch intervals and allow them to grow until they are 4 or 5 inches high. By this time they are ready for transplanting into the open ground.

Tomatoes need constant cultivation to keep down weeds and conserve soil moisture, upon which they draw heavily. This is especially true in the early stages of the plants allowed to sprawl. Later these cannot be cultivated without injury to the tender, rather brittle stems.

Any good garden soil will grow tomatoes. Experience has shown that too much (especially nitrogenous) fertilizer or manure close to the plants makes them more likely to produce leafage than fruit. If you are prepared to pinch off the excess leaves, they may be fertilized as for any other rich feeding crop.

Bonny Best. Early, hardy and a scarlet fruit variety. Medium sized, solid, smooth and quite round. Very productive with excellent quality. **Packet, 5c**

Chalk's Early Jewel. Fruits large, bright red, round, smooth, solid and almost seedless. Recommended for market and home gardeners. **Packet, 5c**

Break O' Day. *Wilt resistant.* Vines vigorous open growth and very productive. Fruits scarlet medium to large size true globe shape. Slightly earlier than Mariglobe, an excellent variety for the home and market garden. **Packet, 5c; ounce, 40c; ¼ pound, $1.40.** Prices postpaid.

John Baer. Brilliant round fruits, high crown, smooth and delicious flavor that is easily peeled. Excellent keeper, yields well and a good shipper. **Packets, 5c**

Mariglobe. Very resistant to disease. Fruits are large, globe shaped and deep red. Excellent for slicing and canning. **Packets, 5c.**

Prichard. Newest to be introduced by U. S. Department of Agriculture. Strongest disease resisting tomato yet offered. No core, small seed pockets and evenly colored throughout. **Packets, 5c.**

Other Varieties: Dwarf Champion, Burbank, Stone, Golden Queen, Yellow Pear, Yellow Plum and Ground Cherry. **Packets, 5c.**

Turf and Lawn Grass Seed

Astoria Creeping Bent. This is the most popular of all the Bents for lawn purposes. Does well on practically all types of soil and will withstand severe cold much better than other Bents. It has a beautiful pleasing green and a fine velvety texture, forming a matted turf that improves with age and will stand much hard wear. *One pound to 250 square feet.*

Pacific Creeping Bent. This is a grade of Bent that usually consists of two or more other bents the larger percentage being Astoria Bent. Is adapted to practically all types of soil and produces an exceptionally fine turf.

Certified Seaside Bent. Discovered and developed in the vicinity of Coquille, Oregon. This is a surface creeping bent. Adapted to putting greens and golf courses, and makes a desirable addition to lawn grass mixtures.

Chewings Fescue. A hardy fine leaved grass adapted to all types of soil. Produces a permanent close turf and one that will withstand hard usage. *Sow one pound to 200 square feet.*

Poa Trivialis or Shady Blue Grass. This particular variety of grass is adapted to shady places. Its habits of growth are very similar to Kentucky Blue Grass.

Diamond Fancy Lawn With Creeping Bent. This mixture contains sufficient Astoria Creeping Bent to eventually predominate the lawn. In addition to the Creeping Bent the proper amounts of Bule Grass, Poa Trivialis and Chewings Fescue have been added so as to give you a mixture that will produce a fine velvety turf, and at the same time allowing the Bent grass to eventually predominate. *Sow one pound to 200 square feet.*

Diamond Fancy Lawn Grass Mixture. Prepared from the choicest recleaned grass seeds carefully selected for their fineness, their deep rooting, close growing habits and seasonal qualities, producing an ideal dense velvety turf of lasting quality that remains green throughout the year. This mixture is composed of the correct proportions of Kentucky Blue Grass, Chewings Fescue, Poa Trivialis and Red top which are rcquired in making a true Diamond Fancy Lawn grass mixture. *Sow one pound to 200 square feet.*

Diamond Shady Lawn Mixture. This mixture is especially selected for lawns that are more or less shady. Poa Trivialis grows in most shady spots where other grasses fail, therefore, we have increased the amount of Poa Trivialis in this mixture and at the same time give you the correct amounts of Blue Grass, Red Top and Chewings Fescue to produce fine velvety turf. *Sow one pound to 200 square feet.*

Rough Stalk Meadow Grass (Poa Trivialis). Very similar to Kentucky Blue Grass, in habits of growth. Adapted to moist soils and thrives in shady places, for this reason it is used for lawn purposes. Owing to its ability to thrive in the shade it is often called Shady Blue Grass.

Kentucky Blue Grass (Poa Pratensis). *20 pounds per acre.* A Perennial with a widely creeping root stock. Producing runners and leafy shoots. The runners creep under the surface, rooting from the joints and finally producing upright leafy stems growing from 1 to 3 feet high. Bluegrass prefers well drained loams and does especially well on limestone soils. It prefers medium moist conditions although it is quite resistant to drouth. Is extremely hardy, will withstand severe frost and long covering of snow without injury. It is the most important of all pasture grasses and is extensively used as a lawn grass and in lawn grass mixtures.

Red Top (Agrostis Vulgaris). *12 pounds per acre.* A hardy Perennial having a wide range of soil and climatic adaptation. Thrives best on moist or wet soils and will withstand considerable drouth on poor uplands. Grows about 30 inches high, stems and leaves are fine, root stalks shallow, 2 to 6 inches long. These enable it to form a dense turf. Is generally used as a pasture plant and in pasture mixtures and is also used in lawn grass mixtures. Continual mowing causes the leaves to become much finer, giving very satisfactory lawn results.

English Ryegrass (Lolium Perennial). *25 pounds per acre.* A Perennial Rye Grass quite similar in general appearance to Italian Rye Grass, growing from 2 to 4 feet in height. Differs, however, in quality, the plants are in general quite tough which makes it an unpopular grass for lawns. Makes an excellent plant for permanent pastures. Starts quickly and furnishes early grazing while other long-lived grasses are becoming established. Requires the same soil and climatic conditions as other Rye grasses.

Oregon Rye Grass. *25 pounds per acre.* This distinctive type of Ryegrass is common to the Pacific Northwest, west of the Cascade Mountains. It resembles Italian quite closely in habits of growth and is generally considered to be an annual although under pasture conditions in moist sections the plants may live two or three years. It makes a rapid growth, is winter hardy, stools heavily, producing an abundance of large dark green leaves and numerous fine stems. When used for hay has rapid comeback when moisture conditions are favorable. On account of its rapid growth fits well into pasture mixtures whilc longer lived plants are becoming established. Rye grasses have a wide range of soil adaptability making better growth than most grasscs on lands of low fertility.

Agricultural and Field Seed

Grimm Alfalfa. *15 pounds per acre.* The most important member of the variegated group in the United States. Introduced from Germany by Wendelin Grimm.

A very winter hardy, long-lived variety. The tap root shows a tendency to branch and the crowns are low set and spreading. These characteristics contribute much toward its ability to resist extreme cold, alternate freezing, thawing and heaving. Succeeds in most types of soil except those heavily charged with alkali, will not grow in waterlogged soil.

It is very important that all Alfalfa seed be inoculated with Nitragin A.

Cossack Alfalfa. *15 pounds per acre.* An introduction from Russia and a hybrid between common and yellow-flowered Alfalfas.

Growth is generally upright with stems medium in size, plants are very leafy with fairly large leaves. Flowers are variegated ranging from white and yellow to dark purple.

Rooting system is large with heavy deep penetrating tap root being the rule. A very winter hardy variety adapted for growing under practically the same conditions as Grimm Alfalfa.

Inoculate seed with Nitragin A.

Common Alfalfa. There are various strains of common Alfalfa produced in the United States and are usually distinguished by the name of the state in which grown, such as Idaho, Oregon, Northern California, etc. Common Alfalfa from above named sections is adapted to Oregon and Washington climatic conditions. Common Alfalfa differs from the Grimm Alfalfa mainly in the root system. The tap root in common does not show the tendency to branch and the crowns are not as spreading.

Inoculate all seed with Nitragin A.

Ladak Alfalfa. An introduction from Northern India.

The growth in general is quite upright with stems medium size, plants are very leafy, medium size leaves. Flowers are variegiated ranging from whitish and yellow to very dark purple.

The rooting system is extensive, with most plants being tap rooted.

One of its outstanding characteristics is its ability to produce a heavy first crop. It is sometimes referred to as one-cut Alfalfa, mainly for the reason, that under certain conditions its comeback is rather slow. It is very well adapted to conditions where only one crop of forage can be secured a year because of lack of moisture and short growing season.

It is extremely winter hardy, and long-lived and is much more resistant to bacterial wilt than Grimm, Common and other varieties closely related to these.

Inoculate seed with Nitragin A.

Alsike Clover (Trifolium Hybridum). *12 pounds per acre.* A long-lived Perennial, adapted to a wider range of both climatic and soil conditions than Red Clover. Thrives well on clay, clay loams, sandy loams and muck soils providing abundant moisture is available. Will survive where soil is waterlogged, making it well adapted to growing under irrigation. An excellent pasture plant and when sown for hay is usually mixed with Red Clover, Timothy or Red Top.

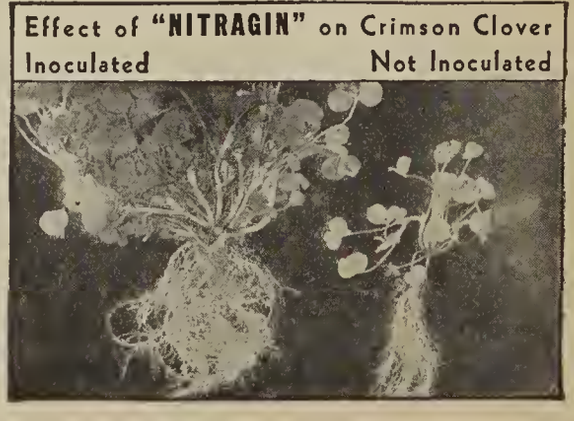
To insure a good stand always inoculate your seed with Nitragin B.

Red Clover (Trifolium Pratense). *15 pounds per acre.* Usually classed as a short-lived perennial and is considered the most important of all leguminous forage crops. Requires a well drained soil, does better in clay soils than in loams and better in loams than in sandy soils. Is especially intolerant to waterlogged soils.

Do not fail to inoculate your seed with Nitragin B.

White Dutch Clover (Trifolium Repens). *8 pounds per acre.* A long-lived but shallow rooted perennial. The stems creep on the surface of the ground and root abundantly. On this account the growing point is seldom injured by mowing or grazing. Grows in practically all types of soil provided moisture is abundant, thriving best in loams and clay soils. White clover is considered to be one of the most important pasture plants, generally used in pasture mixtures and is also used to a large extent in lawn grass mixtures.

Ladino Clover (Trifolium Repens latum). *5 pounds per acre.* Also known as giant white clover, growing about twice the size of White Dutch Clover. It is a Perennial of medium long life, having a short tap root. The surface stems lie flat on the ground and commonly produce fibrous roots at the joints. Ladino clover usually makes a growth of 8 to 12 inches in height. Can be grown on rather shallow soils where well supplied with lime, phosphate, humus and moisture. Ladino is not a deep rooted plant and thrives best on medium heavy type soils where there is constant but not excessive moisture. This is primarily a pasture plant and may be sown alone or with a combination of other grasses.



Mammoth Red Clover (Trifolium Pratense Perenne). *15 pounds per acre.* A large variety of red clover more decidedly Perennial than common Red Clover requiring the same climatic and soil conditions. The stems are long, coarse and generally spreading. Mammoth red blooms about 10 days later than common red and grows more slowly after mowing. Its coarse growth makes the hay less relished by stock, however its heavy growth makes it an excellent soiling crop.

Inoculate the seed with Nitragin B.

White Sweet or Bokhara Clover (Melilotus Alba). *20 pounds per acre.* A Biennial having a strong tap root, produces numerous leafy stems, growing from 4 to 6 feet in height when firmly established. Grows readily on practically all types of soils. Endures poorly drained soils better than Alsike, used mainly as a pasture plant and for green manure.

Inoculate with Nitragin A.

Crimson Clover (Trifolium Incarnatium). *15 pounds per acre.* An annual plant having a strong tap root, shows on very marked soil preferences, succeeding on both sandy and clayey soils as long as they are well drained. From the crown of the root numerous upright stems develop which reach an average height of one or two feet. Has a high nutritive value and can be used for either hay or pasture, valuable for soiling purposes in short rotations, as the green matter produced is heavy, and the roots penetrate deep into the ground

All seed should be inoculated with Nitragin B.

Yellow Sweet Clover (Melilotus Officinalis). *20 pounds per acre.* A biennial having the same habits of growth as the White Sweet, requiring the same soil and climatic conditions. Stems are less leafy and smaller in size. The plant does not grow quite as tall and is about two weeks earlier.

Inoculate with Nitragin A.

Yellow Sweet Clover Annual (Melilotus Indica). *20 pounds per acre.* Known as Yellow Blossom sour clover. Not recommended for forage or hay, used most entirely for cover crop. Soil requirements same as other sweet clovers.

Inoculate with Nitragin A.

Brome Grass (Bromus Inermis). *20 pounds per acre.* A long-lived Perennial with a creeping rootstock. These are much branched, roots at the joints and produces numerous upright stems. The stems are rather stout from 1 to 4 feet high, and carry many spreading, broad smooth leaves varying from light to dark green. The upright stems produced are scattered, therefore, the plants are not tufted but form loose mats. Brome Grass is adapted to regions of rather low rainfall, endures winter cold remarkably well and no other cultivated Perennial grass has shown a higher degree of drouth resistance. Prefers rich loams and clay loams and has succeeded well in sandy soils.

Buckwheat. *25 pounds per acre.* An erect growing Annual which under ordinary conditions attains a height of about 3 feet. Is not exacting as to soils. The rather light, well drained sandy loams seem best suited, however, good crops are produced on infertile, poorly tiled land.

Buckwheat is very sensitive to frost, however, the crop may be grown far toward the north. This is due to the short growing season of the plant amounting from 10 to 12 weeks. Japanese and Silverhull are the most commonly grown in the United States.

Cheat or Chess (Bromus Secalinus). A smooth annual grass from 1 to 3 feet tall with flat blades and open drooping panicles, sometimes grown as an annual hay crop, and should be cut when the seed is in the dough stage. Adapted to the same soil conditions as wheat. The plants are similar to those of wheat and formerly the idea was held that cheat was a degenerative or changed form of wheat whence its name.

Crested Wheat Grass (Agropyron Cristatum) *15 pounds per acre.* A hardy drouth-resistant Perennial bunch grass having an extensive root system, especially adapted to regions where the temperatures are severe and the moisture supply is limited. The plants have a dense, dark green foliage during the early part of the season, after seeding the plants appear less leafy but the stems are fine and when harvested early makes hay of excellent quality, does well on practically all soils ranging from light sandy loam to heavy clay.

Dwarf Essex Rape. *8 pounds per acre.* There are several varieties of rape, however, Dwarf Essex is considered to be the best, in fact is the only one used for pasture and forage crop purposes. Rape is termed as a cool weather plant therefore is adapted to our cool moist climate here in the Northwest and is not very exacting as to soil requirements.

Rape is used extensively as a pasture plant for sheep, cattle and hogs and is generally sown in the spring when used for such purposes. It may also be used as a catch crop occupying the land for short periods or at times when it is desired to have a crop on the land between two regular season crops.

Lespedeza. *15 pounds per acre.* Classed as a summer annual, however, in sections where adapted will usually reseed itself and will thus occupy the land for two or more years. The plants are usually much branched, stems wiry, bearing numerous small leaves, under favorable soil and climatic conditions the plants commonly grow about 12 inches high. Adapted to practically all types of soil if well drained near the surface. Requires a warm growing season and will not withstand frost. Used mainly as a pasture plant.

Meadow Fescue (Festuca Elatior). *20 pounds per acre.* A deep-rooted, long-lived Perennial. The stems are 18 to 24 inches high, smooth, rather slender. Most of the leaves are produced by numerous sterile shoots from the root stock. The leaves are dark green, long and broad. Prefers rich moist or even wet soils, does not succeed well in sandy soils. Thrives as well as Orchard grass in shady places. It is better adapted for pastures than for meadows but may be used for both purposes.

Millet. *25 pounds per acre.* The millets are rapid growing annuals used primarily for forage production purposes. Requiring in general the same climatic and soil conditions as Sudan grass. The plants usually attain a height of three to four feet. The stems are erect, rather stiff and the leaves are long and broad.

The seed should not be sown until the ground is warm, usually about corn planting time.

Several varieties are used here in the Northwest, the most popular being German or Golden, Early Fortune or Hershey and Japanese, also known as Billion Dollar Grass.

Mesquite (Holcus Lanatus). *20 pounds per acre.* This plant is primarily adapted to moist cool climates and under such conditions is not particular as to soil.

The plants form thick, rather high tussocks. The stems are erect, growing from 2 to 3 feet high. The whole plant has a velvety appearance hence the name Velvet Grass is sometimes used. Mesquite should be sown with a mixture of other grasses, as stock does not take to it readily when grown alone.

Orchard Grass (Dactylis Glomerata). *25 pounds per acre.* A long-lived Perennial forming dense circular tufts, a typical bunch grass producing no stolons and hence never forms a complete sod. The stems are 2 to 3 feet high and are crowned and surrounded at the base by numerous heavy shoots. The leaves are long, broad and flat, rather soft in texture. Grows in practically all types of soils, being best adapted to clays or clay loams. Succeeds well in shady places and also does quite well where rainfall is rather scanty, starts growth early in the spring.

Pasture Mixtures. *35 pounds per acre.* Owing to the fact that so many types of Pasture Mixtures are used, we realize that it would be impossible for us to prepare in advance mixtures that would conform with the requirements of each formula recommended.

Therefore we have confined our efforts to two Pasture Mixtures only, namely UP-LAND and LOW-LAND. In these two mixtures we use only the very best grades of seed carrying a high percentage of Purity and Germination and only those seeds that are adapted to the general soil and climatic conditions throughout the Pacific Northwest and for this reason we feel that either of these two mixtures will meet with the average general requirements.

Reed Canary Grass (Phalaris Arundinacea). *8 pounds per acre.* A long-lived rather coarse Perennial grass. The plants are resistant to cold both as seedlings and mature plants. The rapidly spreading short underground stems soon form a dense sod growth, starts early in the spring and continues until late fall. The plants grow from 4 to 6 feet in height. The stems are stout, smooth and seldom lodge. The leaves are broad and nearly 1 foot long.

Reed Canary is especially adapted to swampy or overflow lands of sandy, mucky or peaty nature, makes an excellent pasture plant and may also be used for hay.

Italian Ryegrass (Lolium Multiflorum Lam). *25 pounds per acre.* A hardy short-lived grass usually an annual. When seeded in spring, late summer or early fall, it makes rapid growth, furnishing grazing in remarkably short time. It is tender, very palatable to livestock and has excellent carrying capacity. The plants grow from 2 to 4 feet in height. Since Italian Ryegrass is a heavy seeder, if not kept closely grazed or mowed many new plants appear from volunteer seeding. Adapted to the same soil and climatic conditions as other ryegrasses.

Sudan Grass (Andropogon Sorghum). *25 pounds per acre.* A tall annual, growing under favorable conditions to height of 4 to 6 feet. The stems are fine, leafy, perfectly erect, seldom lodging.

The plants stool abundantly and owing to the lack of root stocks never become troublesome as a weed. Sudan is grown primarily for forage production purposes and should not be sown until the soil is warm, usually about corn planting time. Many failures are traced direct to seeding in a cold soil. In general climatic and soil adaptations for Sudan are nearly identical with those of corn.

Tall Meadow Oat Grass (Arrhenatherum Elatius). *30 pounds per acre.* A long-lived, deep-rooted Perennial. Strictly a bunch grass growing to a height of 4 to 5 feet. The stems are generally dark green, leafy above the middle. The leaves are long, broad and rather soft in texture, usually a bright green almost yellowish. Can be grown on practically any kind of soil provided it is fairly moist, will not endure wet soils. It is one of the most drouth resistant of the cultivated grasses. Makes a quick start after pasturing and stands pasturing well. One of the first grasses to start in the spring and the last to die in the fall.

Timothy (Phileum Pratense). *15 pounds per acre.* A Perennial grass having a very short root stock and therefore grows in more or less compact tuffs. The stems which usually reach a height of from one to four feet or more are smooth and generally erect. The leaves are generally short compared with the height of the plant. Timothy is adapted to cold, moist or wet lands also heavy clay soils. However, does not thrive on sour soils or impoverished sandy or shallow soils. Although root system is shallow it stands drouth fairly well. It is very resistant to cold.

Poa Bulbosa (Winter Blue Grass). *25 pounds per acre.* A perennial, and under suitable conditions forms a perpetual sod, reseeds itself freely, spreading both by the bulbs produced beneath the surface of the soil and bulblets on the head. This grass reverses the normal order of growth, being entirely dormant during the entire summer. The plants revive after the first fall rains, producing pasture throughout the late fall, winter and spring. Seed should be sown during the fall.

Soy Beans. *50 pounds per acre.* The Soy Bean is a leguminous Annual growing to a height of 10 inches or more depending on soil conditions. The plant is erect and branching, quite leafy and producing numerous pods. The leaves vary in size and color depending on the variety. Soy Beans are a promising emergency Leguminous hay crop for various places here in the Northwest.

Soy Beans grow on rather a wide range of soils, are quite drouth resistant, and will stand excess moisture providing the water does not stand for any considerable length of time.

Should be sown about corn planting time, rows about three feet apart and the seed about 3 or 4 inches apart in the row.

All seed should be inoculated with Nitragin "S".

Vetches make excellent feed, either green or as hay, and are also exceedingly useful as cover and green manure crops. They are usually seeded with grain, oats being the favorite for the reason separation is easily made when harvesting vetch for a seed crop.

Common Vetch. The most important annual legume grown in Oregon, used extensively as a green feed crop for spring and summer, also makes an excellent green manure and cover crop. Vetch is best suited to a moist cool climate free from extremes of heat or cold during the growing season. Is adapted to heavy well drained soils. The stems are slender growing from 3 to 5 feet or more in length, semi-erect. The leaves are pinnate, with about seven pairs of leaflets and a terminal tendril. The flowers are violet purple rarely white and are borne in pairs on a very short stalk.

Hungarian Vetch. A fine stemmed annual making a semi-erect growth 2½ to 4 feet in length and somewhat hairy overall. The flowers are brownish white in color and are borne in groups of from two to eight. Hungarian Vetch is quite winter hardy and is adapted to a wide range of soils, lands with poor drainage and lands that are heavy, sour and white will often produce crops of Hungarian Vetch while other crops have failed.

Hairy Vetch, also known as Sand Vetch. The stems are slender, usually growing to an average length of 6 to 8 feet. The leaves are narrow, violet blue borne on long stems in dense one-sided clusters of about 30. Hairy vetch is quite winter hardy rarely winter killing if well established in the fall, adapted to a wide range of soils doing best on sandy or sandy loams but does not succeed in very wet soils.

Austrian Winter Field Peas. A true winter variety. Plants resulting from fall seedings pass through a definite period of winter dormancy before growth begins in the spring. The plants are viny, generally similar to other varieties of field peas under average conditions attain a length of 3 to 4 feet. The blooms are purple. The peas are very hardy, zero temperatures do little damage unless freezing and thawing periods are severe. They are adapted to well drained clay and sandy loams. The Austrian pea is used for all types of forage such as hay, silage, soiling and pasture.

Canadian Field Peas. Quite similar to the Austrian Winter Field Pea. The stems and leaves are somewhat larger and the blooms are white. The variety is not winter hardy, being adapted only to moderate temperatures. They do best on loams or clay loams but will succeed on most types of soil if well drained.

The Canadian Field Pea is used for practically the same purposes as the Austrian in general farming. Both varieties are usually sown with a small grain crop.

Jerusalem Artichokes. The Artichoke is an annual reproduced by tubers somewhat similar to potatoes.

The plants grow from 4 to 12 feet in height, the stalks are medium coarse often heavily branched and very leafy and bear small yellow blossoms on the tips of the upper branches and main stalks.

In general the tubers are rough and vary from the elongated, usually slender to the almost round types, the flesh is white, eyes small and the surface coloring varies from red and blue to white and yellow.

Artichokes are adapted to practically all types of soil except those heavily charged with alkali.

Artichokes are planted like potatoes using the same machinery and following the same general practices. When planting whole tubers use 800 to 1000 pounds depending on the size of the Tubers. When cut in pieces use 500 to 800 pounds per acre.

Planting is usually and preferably in the spring during April or early May.

Certified Astoria Bent. This strain of Bent Grass was discovered and developed in the vicinity of Astoria. This is a fine leafed Bent especially adapted to lawns, parks, athletic fields and golf courses. Does well on practically all types of soils. This particular strain of Bent should be used for fine lawns and may also be used in lawn grass mixtures.

Certified Seaside Bent. Discovered and developed in the vicinity of Coquille, Oregon. This is a surface creeping bent. Adapted to putting greens and golf courses, and makes a desirable addition to lawn grass mixtures.

Certified Highland Bent. Discovered and developed in the Willamette Valley and Southern Oregon. A vigorous underground creeper similar in its growing habits and requirements to that of Astoria Bent and is especially adapted to heavy cold soils.

Pacific Bent. This is a grade of Bent that usually consists of a mixture of two or more Bents the bulk being Astoria and is well adapted for lawns and parks and lawn grass mixtures.

Why Disinfecting Seed Before Planting Pays

Of all the diseases that contribute to this immense annual loss, those carried on the seed are among the most important. Seeds of all plants generally carry on their exteriors spores of harmful as well as harmless disease organisms. That seeds carry disease spores is not a recent discovery. It has been known since 1755 when Tillet proved seed wheat carried smut. Today well over 200 different disease organisms have been reported by scientists as commonly carried by farm, flower and vegetable crop seeds. In fact, the seeds of many plants are recognized as the agents for world-wide distribution of certain dangerous diseases.

Seed-borne diseases are more insidious than most other types, as they do irreparable damages before their presence is known. Most growers are familiar with the destruction by smuts of small grains, root-rots of corn, scab of potatoes, certain boll-rots of cotton, damping-off of flower and vegetable seedlings and many similar diseases, which are surface seed-borne. These organisms, besides infecting the mature plants, may slow up germination, cause seed rotting and seedling damping-off, all of which results in poor stands and weakened plants that fail to yield paying crops of best quality.

CONTROL OF SEED-BORNE DISEASES

In 1807 Prevost of France proved "bluestone" would control stinking smut carried on seed wheat. Since then it has been found that the diseases transmitted on the surface of the seed are as a rule, the easiest to control of all types of those infecting plants.

Early this century the organic mercuries were found to be very effective in killing many disease organisms carried on seeds, without injury to the seeds. This led to exhaustive investigations of these compounds. After years of intensive research the present Du Bay Seed Disinfectants were developed.

The prevention of disease by treating seeds before planting with the effective, easily applied Du Bay Disinfectants is less costly and returns greater profits per dollar invested in control than do most methods for combating diseases spread by other means. Years of continued use prove this!

SEED TREATMENT PAYS

Du Bay Seed Disinfectants pay large profits by destroying disease organisms before they can do damage; by preventing seed rotting in cold, wet soils; by reducing damping-off of emerging seedlings; by producing better stands of more vigorous plants; by increasing yields; and by improving crop quality.

A convincing illustration that seed corn treatment pays is furnished by the results of years of research by the Illinois and Iowa Agricultural Experiment Stations with the organic mercuries. Their average yield increase from treatment of farmers' seed corn was 3.25 bushels an acre. If you price this increased yield at 63.29 cents a bushel, the ten-year average farm price of corn, the return is $2.05. Deduct the cost of treatment with New Improved Semesan Jr of 2 cents an acre —the profit is $2.03, or a 10,150% return on the money spent for disinfectant.

Remember, it is not easy to determine whether seeds are contaminated or soils are infected with organisms that cause decay and consequent reduction in yields. Use practical crop insurance against surface seed-borne disease losses—TREAT YOUR SEED THIS AND EVERY YEAR.

Don't Lose Those Extra Profits by Failing To Inoculate

It is a scientific fact that two-thirds of the nitrogen requirements of legume plants is taken from the air when the seeds are inoculated with high nitrogen-fixing strains of bacteria. The bacteria within the nodules formed on the roots of the plant have the power to convert free nitrogen taken from the air into complex protein compounds which the plant is able to use to promote its growth.

Contrary to popular belief, legume plants alone, without the aid of nitrogen-fixing bacteria, do not possess the ability to use free atmospheric nitrogen; nor are the natural wild bacteria, which often produce nodules on a plant, always able to fix nitrogen. Many times they are very inefficient, or even parasitic, and mislead the farmer into thinking he does not need to inoculate. It never pays to depend upon natural inoculation.

Build up and maintain the fertility of the soil on your farm by inoculating all legume seeds (alfalfa, clover, soybeans, vetch, peas, and other pod forming crops) with NITRAGIN.

Convert legumes from **"SOIL ROBBERS"** to **"SOIL BUILDERS."**

AGRICULTURAL EXPERIMENTAL STATIONS AND COLLEGE RECOMMEND INOCULATION

Wisconsin Experiment Station, Madison, Wisconsin, Circular 252—"Wisconsin farmers can improve their crops and enrich their soils by inoculating legumes such as alfalfa, clover, soybeans and peas."

Illinois Experiment Station, Urbana, Ill., Circular 326—" . . . In order, therefore, to function most effectively as soil builders, legumes must be inoculated."

Texas A. & M. College, Circular 118—"Legumes store nitrogen in the soil through fixing bacteria. . . . As these bacteria are not present in all soils, and may be weak even if present, it is safest always to inoculate the seed with fresh, live culture before planting."

New York State Agricultural Experiment Station, Geneva, N. Y., Circular 179—" . . . The average returns are such, however, that when the small cost of the culture is considered, inoculation is perhaps the most profitable farm operation."

INOCULATE ALL LEGUME SEEDS WITH

NITRAGIN

FORTY YEARS OF SERVICE

When ordering, Always state name of seed.

ALFALFA, all Clovers

Size			Retail
½	bu.	each	$ .30
1	bu.	each	.50
2½	bu.	each	1.00

PEAS (All Varieties)
VETCHES (All Varieties)

½	bu.	each	$ .25
1	bu.	each	.40
1⅔	bu.	each	.60
5	bu.	each	1.70
12½	bu.	each	4.00

BEANS
String, Wax, Kidney

½	bu.	each	$ .25
1	bu.	each	.40
5	bu.	each	1.70

LESPEDEZA

Size			Retail
1	bu.	each	$ .30
2	bu.	each	.50
5	bu.	each	1.00

SOYBEANS, LIMA BEANS, COW PEAS, PEANUTS

1	bu.	each	$ .30
2	bu.	each	.50
5	bu.	each	1.00
10	bu.	each	1.60
25	bu.	each	3.00

GARDEN SIZE
Garden Peas & Beans
Sweet Peas & Lupines

Enough for 4 lbs. seed
Retail Price.....10c each

Field Crops Planting Instructions

KIND OF SEED	Lbs. per Bu.	Sow Lbs. per Acre	Time to Sow	Depth to Sow Inches
Alfalfa—broadcast	60	18 to 22	Spring and early fall	1 to 1½
Alfalfa—drilled	60	12 to 15	Spring and early fall	1 to 1½
Artichokes, Jerusalem	50	150 to 200	March, April, May	4
Barley—drilled	48	120 to 150	March, April	1 to 1½
Beet, Mangel Stock	30	6 to 8	April, May, June	1
Beans, Navy, Field (Small)	60	25 to 30	May, June, July	1
Beans, Great Northern (Large Navy)	60	40 to 60	May, June, July	1
Bermuda Grass	40	4 to 6	March to May	½
Black Medic	60	18 to 20	Feb., March, April	½
Blue Grass, Kentucky, for lawns	14*	125	Early spring, early Sept.	½
Blue Grass, Kentucky, for pastures	14*	20 to 30	Early spring, early Sept.	½
Glue Grass, Canada, for lawns	14*	125	Early spring, early Sept.	½
Blue Grass, Canada, for pasture	14*	20	Early spring, early Sept.	½
Brome Grass	14*	20	Spring	1½ to 2
Broom Corn	48	5 to 8	April, May	1 to 1½
Buckwheat	52	50 to 60	Late spring	1 to 1½
Clover, Alsike	60	4 to 5	Winter to April	½ to 1
Clover, Alsike—in mixture	60	2 to 4	Winter to April	½ to 1
Clover, Alsike and Timothy, mixed		8 to 10	Winter to April	
Clover, Burr	12	30 to 40	Aug., Sept., Oct.	½
Clover, Crimson	60	12 to 15	July to October	½ to 1
Clover, Hop	60	10 to 12	Feb., Mar., April, Sept.	¼
Clover, Mammoth	60	6 to 10	Winter, early April	½ to 1
Clover, Mammoth, in mixture	60			
Clover, Red	60	6 to 10	Winter, early April	½ to 1
Clover, Red, in mixture	60			
Clover, Sweet, white or yellow	60	12 to 15	March to August	½ to 1
Clover, Sweet, white (unhulled)	30	25 to 30		
Clover, White Dutch	60	6 to 8	March to April	½ to 1
Corn	56	8 to 10	Late spring	1 to 1½
Corn, for Silage	56	14 to 20	Late spring	1 to 1½
Cotton Seed	32	32	April, May, June	¾ to 1
Crotalaria	40	12 to 15	April, May, June	¼
Dallas Grass	10	8 to 10	March, April, May	½
Egyptian Wheat, Shallu	50	10 to 12	May, June, July	1½ to 2
Fescue, Meadow	24*	20 to 30	Early spring, Aug., Sept.	½
Fescue, other varieties	14*	28 to 35	Early spring, Aug., Sept.	½
Hegari	50	8 to 10	April, May, June	1½
Johnson Grass	28	20 to 30	April to July	1
Kaffir—Milo—Feterita—Grohoma, (drill)	56	10 to 15	May, June	1 to 1½
Kaffir—Milo—Feterita—Grohoma, (broadcast)	56	40 to 50	May, June	1 to 1½
Kale, Thousand Headed	50	4 to 5	Mar., Apr., May, Aug., Sept.	½
Lawn Grass, mixed		125	Early spring, early fall	½
Lespedeza—Common	25	25 to 30	Early spring after frost	1 to 2
Lespedeza—Kobe	25	25 to 25	Early spring after frost	1 to 2
Lespedeza—Korean	25	20 to 25	Early spring after frost	1 to 2
Lespedeza—Sericea	60	25 to 30	Early spring after frost	1 to 2
Millets—for Hay	50	30	Late May to early July	½ to 1
Millets—for Seed	50	15	Late May to early July	½ to 1
Millets, Hungarian, for Hay	48	48	Late May to early July	½ to 1
Millets, Hungarian, for Seed	48	30	Late May to early July	½ to 1
Millets—Japanese	35	20 to 30	Late May to early July	½ to 1
Mung Beans	60	8 to 10	May, June, July	½ to 1
Oats	32	60 to 80	March, April	1 to 1½
Orchard Grass—for Hay	14*	21 to 28	Early spring, fall	½ to 1
Orchard Grass—for Seed	14*	10 to 14	Early spring, fall	½ to 1
Pasture Mixtures		30 to 40	Early spring, fall	½ to 1
Peanuts	22	35 to 40	May, June	2
Peas, Austrian Winter	60	30 to 35	Aug., Sept., Oct.	2
Peas, Canada Field, (broadcast)	60	120 to 150	Early spring	1 to 2
Peas, Canada Field, with oats	60	75 to 90	Early spring	
Peas, Cow, broadcast	60	75 to 90	May or June	1 to 2
Peas, Cow, drilled	60	25	May or June	1 to 2
Peas, Cow, in drill with corn	60	20 to 30	May or June	1 to 2
Rape, broadcast	50	5 to 8	Early May to late July	½ to 1½
Rape, drilled	50	4 to 5	Early May to late July	½ to 1½
Red Top, Solid Seed	14*	6 to 8	April or early Sept.	½
Red Top, Unhulled	14*	20 to 25	April or early Sept.	½
Rye, Grain	56	84 to 112	Sept. to Nov.	1 to 1½
Rye, Grass	24	28 to 35	April or early Sept.	½
Sagrain	50	8 to 10	Apr., May, June, July	1
Sorghum Forage, broadcast	50	40 to 50	May, June	1 to 1½
Sorghum Forage, drilled	50	8 to 10	May, June	1 to 1½
Sorghum Syrup	50	8 to 10	May, June	1 to 1½
Sorghum, grain varieties, broadcast	56	40 to 50	May, June	1 to 1½
Sorghum, grain varieties, drilled	56	10 to 15	May, June	1 to 1½
Soy Beans, broadcast	60	75 to 120	May, June	1 to 2
Soy Beans, drilled	60	25	May, June	1 to 2
Soy Beans, in drilled with corn	60	15 to 20	May, June	1 to 2
Sudan Grass, broadcast	40	20 to 30	Late May to early July	½ to 1
Sudan Grass, drilled	40	10 to 15	Late May to early July	½ to 1
Sunflower	32	6 to 8	May	1 to 2
Timothy	45	8 to 10	Spring and fall	½
Velvet Beans	60	15 to 30	May, June	3 to 4
Vetch, Winter or Hairy	60	40 to 60	June to Sept.	1 to 2
Vetch, Spring	60	40 to 60	March or April	1 to 2
Wheat, Winter	60	75 to 90	Sept. to Nov.	1 to 1½

* NOTE.—Weights per bushel for certain grasses are old standards. Good recleaned seed is usually heavier.

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NURSERY DIVISION

Portland Seed & Pet Store

204 South West Yamhill Street **ATwater 3871**

Vegetable Plants

FOR TRANSPLANTING

ASPARAGUS. Giant Washington, Mary Washington. 1 year plants; 12 for 40c; 50 for 75c; 100 for $1.25; 1000 for $7.00. 2 year plants; 12 for 50c; 50 for $1.00; 100 for $1.50; 1000 for $10.00. Prices postpaid.

CABBAGE. All varieties listed under cabbage seed, state kind desired. 12 for 25c; 100 for $1.50; 1000 for $10.00. Prices postpaid.

CAULIFLOWER. All varieties listed under cauliflower seed, state kind desired. 12 for 30c; 100 for $2.00; 1000 for $16.00. Prices postpaid.

CELERY. All varieties listed under celery seeds, state kind desired, 12 for 25c; 100 for $1.50. Prices postpaid.

HOP ROOTS. 3 for 25c; 12 for 75c; 100 for $3.50. Prices postpaid.

HORSERADISH ROOTS. (Crowns) 3 for 25c; 12 for 75c. (Commercial cuttings) 100 for $1.25; 1000 for $10.00. Prices postpaid.

KALE. Thousand Headed. 12 for 25c; 100 for $1.50; 1000 for $10.00. Prices postpaid.

LETTUCE (Transplants). All varieties listed under lettuce seed, state kind desired. 12 for 25c; 100 for $1.50; 1000 for $10.00. Prices postpaid.

PEPPER. Chinese Giant and California Wonder. 12 for 30c; 100 for $2.00; 1000 for $10.00. Prices postpaid.

RHUBARB. Riverside Giants. Each 20c; 12 for $1.50; 100 for $7.50. Prices postpaid.

TOMATOES. All varieties listed under tomato seed, state kind desired. 12 for 30c; 100 for $2.00; 1000 for $16.00. Prices postpaid.

Berry Plants

The Pacific Northwest is one of the outstanding berry sections of the world. With soil and climate conditions being ideal for the raising of these much enjoyed fruits we highly recommend, where space is sufficient, that every one have a berry patch. Below we offer the leading varieties of berry plants at extremely low prices.

BOYSENBERRY. A new variety produced by crossing blackberries, raspberries and loganberries. The flavor is a very pleasing blend of each of the three varieties. In has few and soft seeds. The great size is hard to explain—1 inch in diameter by 1½ inches long. Is consistently a heavy bearer and comes into good bearing the next year after planting. Boysenberry is a vigorous grower and should not be planted closer than 6 feet apart. The fruit season is longer than most varieties, lasting about two months. Each 15c; 7 for $1.00; 15 for $2.00; 50 for $6.00; 100 for $10.00. Prices f.o.b. Portland, Ore. Add for postage or freight.

BLACKBERRIES. Eldorado. Himalaya Giant (Evergreen everbearing). 1 year plants, each 15c; 10 for $1.25; 100 for $10.00. Prices f.o.b. Portland, Ore. Add for postage or freight.

BLACK CAPS. One year plants, each 15c; 10 for $1.25. Prices f.o.b. Portland, Ore. Add for postage or freight.

CURRANTS. Oregon shipments only. **Perfection.** Largest, most prolifice. Bright red, rich flavor, mild, subacid. Each 20c; 10 for $1.75. Prices f.o.b. Portland, Ore. Add for postage or freight.

GOOSEBERRIES. Oregon shipments only. **Oregon Champion,** large green, sweet, fine. Each 20c; 10 for $1.75. Prices f.o.b. Portland, Ore. Add for postage or freight.

LOGANBERRIES. Two year plants. Each 20c; 10 for $1.75; 100 for $15.00. One year plants. Each 15c; 10 for $1.25; 100 for $10.00. Prices f.o.b. Portland, Ore. Add for postage or freight.

RASPBERRIES. **Lloyd George.** Each 10c; dozen 75c; 100 for $4.00. Prices f.o.b. Portland, Ore. Add for postage or freight.

STRAWBERRIES. Diamond Quality Strawberry Plants are large, vigorous, healthy and heavy rooted. They have large full crowns. Carefully grown and are free from disease and pests. We dig as ordered and pack for shipment in well-ventilated crates. Grown from our select strains and always true to name; no substitution allowed without instructions from the purchaser. All prices, except noted, 25 for 35c; 100 for 95c; 500 for $4.25; 1000 for $7.50. Prices f.o.b. Portland, Ore. Add for postage or freight.

Banner. A beautiful dark red. An exceptionally sweet variety and a real heavy bearer.

New Oregon. Most uniform and heaviest yielding main crop strawberry. Large, firm, of fine form, average 15 to the quart box. Brilliant deep rich red, with glossy varnished appearance. Color extends through to center and they are never hollow. Flavor is suggestive of wild berry; an early bearer and holds up in size and quality throughout the season.

Marshall. One ofthe best all-round strawberries. Very large and fine flavored throughout the entire bearing season. A splendid market and table berry.

Giant Gem (King of Everbearers) Enormous Berries! Big, firm, fine-flavored. Because of its outstanding performance, this variety is now the leading Everbearing Strawberry. It is very productive and the berries are large, smooth, good quality, a bright red and ripen evenly (do not have green tips). They will commence bearing in 90 days after planting and continue until severe freezing, thus giving you fresh strawberries this summer and fall. Next year, they will bear spring, summer and fall. They are perfect flowering, so can be planted alone. 12 for 50c; 25 for 75c; 50 for $1.25; 100 for $1.95; 500 for $8.75; 1000 for $16.00. Prices f.o.b. Portland, Ore. Add for postage or freight.

YOUNGBERRY. A real special! These berries are a cross between the loganberry and the dewberry. An exceptionally fine flavored, very productive berry. Bears early and commands the highest market prices. The fruit colors well and is exceptionally sweet and large. Color, jet black. Ten plants of this variety will make a row eighty feet long. Transplants, each 15c; 10 for $1.25; 100 for $10.00. Prices f.o.b. Portland, Ore. Add for postage or freight.

GRAPES. **Campbell's Early.** Nearly round, black. **Concord.** Large, black grape. Bunches compact. **Delaware.** Bright red. **Lucile, Niagara.** Large, roundish, uniform white. **Worden** (Improved Concord). Fruit black and large, skin tender. Vigorous plant. Two year plants, each 25c; 3 for 65c; 12 for $1.75. Prices f.o.b. Portland, Ore. Add for postage or freight.

Try the New
GIANT GEM
STRAWBERRY
« Tasty »

FRUIT TREES

AUTUMN AND WINTER APPLES

Baldwin. Large, rounded, deep bright red. Very productive.

Delicious. Fruit equals name in every respect. Keeps until April.

Grimes Golden. Rich golden yellow. Flesh tender and juicy.

Jonathan. Long lived and an early bearer. Fine quality.

Northern Spy. Large, round greenish-yellow. Requires good soil.

Rose Beauty. Fruit large, red, striped.

Spitzenberg. Yellowish, with broken stripes of bright red.

Wealthy. Medium, whitish-yellow, shaded with deep red.

Winesap. Fruit red, large, round-oblate, good, late keeper.

Winter Banana. Market fruit. Pale yellow with pink blush.

Yellow Newtown. Fruit yellow, medium size. tender, crisp, excellent quality.

First Grade. Two years (branched) Each 60c, 10 for $5.00. One year, 4 to 5 feet, Each 45c, 10 for $3.50. Prices packed ready for shipment. Add for postage or freight.

SUMMER APPLES

Gravenstein. Fruit medium in size, striped with crimson, splendid for table and cooking. Tree hardy, healthy and productive.

Red Astrachan. Fruit bright crimson, round. Tree large, hardy and very productive.

Yellow Transparent. Fruit bright yellow, conical, large, subacid, very early.

First Grade. Two years (branched) Each 60c, 10 for $5.00. Ane year, 4 to 5 feet, Each 45c, 10 for $3.50. Prices packed ready for shipment. Add for postage or freight.

CRABAPPLE

Hyslop. Red striped. Very early, juicy, crisp.

Red Siberian. Yellow with scarlet cheek. Bears abundantly.

Transcendent. Very large and excellent for tasty cider.

First Grade. Two years (branched) Each 60c, 10 for $5.00. One year, 4 to 5 feet, Each 45c, 10 for $3.50. Prices packed ready for shipment. Add for postage or freight.

APRICOTS

Moorpark. Excellent for canning and drying. Freestone .

Royal. Sweet, rich, juicy. Good dryer and canner.

The Lewis. Best flavored. Very hardy wth juicy fruit.

Tilton. Large, Rich color, high flavor. Very productive.

First Grade. Two years, 4 to 6 feet, Each 60c, 10 for $5.00. One year, 3 to 4 feet, Each 40c, 10 for $3.00. Prices packed ready for shipment. Add for postage or freight.

CHERRIES

Bing. Large, dark brown or black. Very fine tasty and sweet.

Black Republican (Lewelling). Large, black and sweet.

Lambert. Largest size. Deep, rich red. Fine firm flesh.

Royal Ann. A magnificent cherry of the largest size.

Waterhouse (Long Stem). Small tasty fruit, light red.

First Grade. Two years, 4 to 6 feet, Each 70c, 10 for $6.00. One year, 4 to 6 feet, Each 60c, 10 for $5.00. Prices packed ready for shipment. Add for postage or freight.

PIE CHERRIES

Kentish. Nearly black. Medium to large sizes.

Large Montmorency. The most popular sour cherry grown.

Late Duke. Large, light red. Excellent taste, sub-acid.

May Duke. Large, rich, dark red, sub-acid. May bearer.

First Grade. Two years, 4 to 6 feet, Each 70c, 10 for $6.00. One year, 4 to 6 feet, Each 60c, 10 for $5.00. Prices packed ready for shipment. Add for postage or freight.

PEACHES

Early Crawford. Fruit yellow with beautiful blush. Freestone. Tree large and vigorous.

Elberta. Fruit yellow, large, handsome. Freestone.

Early Elberta. Same as above, except larger fruit and earlier bearing.

Hale's Early. Extra fine quality. Freestone.

Late Crawford. Large, yellow, dark red, juicy, freestone.

Mayflower. Red, freestone, and extremely early.

Rochester. Fruit yellow, flesh yellow, freestone. Tree hardy and productive.

First Grade. Two years, 4 to 6 feet, Each 60c, 10 for $5.00. One year, 3 to 4 feet, Each 40c, 10 for $3.00. Prices packed ready for shipment. Add for freight or postage.

AUTUMN VARIETIES PEARS

Bartlett. Fruit large, thin skin, clear yellow, soft flush. Trees large and productive.

Beaurre D'Anjou. Fruit large, greenish to yellow; very good in quality.

Beurre Bosc. Fruit large, with long tapering neck; greenish-yellow, often overlaid with very heavy russet. Highly flavored.

Fall Butter. Yellow, sweet and meaty. September.

First Grade. Two years, 4 to 6 feet, Each 60c, 10 for $5.00. One year, 4 to 6 feet, Each 50c, 10 for $5.00. Prices packed ready for shipment. Add for postage or freight.

WINTER VARIETIES PEARS

Winter Bartlett. Undoubtedly one of the few pears of recent introduction of real merit.

Winter Nelis. Medium; skin yellowish-green; flesh yellowish-white. Fine grained. December.

First Grade. Two years, 4 to 6 feet, Each 60c, 10 for $5.00. One year, 4 to 6 feet, Each 50c, 10 for $4.00. Prices packed ready for shipment. Add for postage or freight.

PLUMS

Bradshaw. Reddish-purple. Adheres partially to stone.

Coe's Golden Drop. Large, light yellow. Late September.

Damson Shropshire. Dark purple; very firm; flesh green.

Maynard. Dull red, rich and sweet; sturdy; quick growing.

Peach Plum. Very large. Skin brownish red; freestone; bears in July.

Blood Plum. Large, dark red from skin to pit; bears well.

Satsuma. Bears in August; flesh deep blood red; great favorite for jams.

Washington. Fruit light yellow, round-oval, sweet, excellent quality.

Yellow Egg. Very large, deep golden, rather acid. Preferred for canning.

First Grade. Two years. 4 to 6 feet, Each 60c, 10 for $4.00. One year, 4 to 6 feet, Each 40c, 10 for $3.00. Prices packed ready for shipment. Add for postage or freight.

PRUNES

Hungarian. Very large, dark red, juicy and sweet.

Italian (Fellenberg). Dark purple, flesh greenish yellow.

New Standard. Trees large. Enormous yield. Freestone.

Petite (French). Medium, egg-shaped. Violet purple; sugary.

First Grade. Two years, 4 to 6 feet, Each 60c, 10 for $4.00. One year, 4 to 6 feet, Each 45c, 10 for $3.00. Prices packed reeady for shipment. Add for postage or freight.

QUINCE

Pineapple. Flavor is suggestive of pineapple. Resembles the orange quince, making superior jelly. Can be eaten raw, and has a most exquisite and delicious flavor. September. Fire Grade. One year, 3 to 5 feet, 70c, 10 for $6.00. Prices packed for shipment. Add for postage or freight.

HARDY VIOLETS

DOUBLE RUSSIAN. This is not suited to forcing under glass, but is perfectly hardy and a gem for the garden or hardy border. Produces in early spring great masses of fine, large, double, deep purple flowers of exquisite fragrance. 30c each; $3.00 per doz.

Nut Trees

ALMOND (Nut Bearing). Almonds can be grown successfully in many sections of Oregon and Washington. We can supply most of the leading varieties at prices listed. Nonpariel. Nut sweet, shell thin. First Grade. One year, 4 feet. Each 60c. 10 for $5.00. Prices packed ready for shipment. Add for postage or freight.

BUTTERNUT. A beautifully formed tree bearing a rough coated nut of most attractive flovor. Well known to the Middle West. Succeeds fairly well in the Pacific States. Each $1.10. Price packed ready for shipment. Add for postage or freight.

FILBERTS. Barcelona. Magnificently large nut from Spain. First Quality. Can be grown as low standard tree or bush. DuChilly. The largest filbert on the Pacific Coast. Nuts are broad, full-fleshed and sweet. DuChilly is a good pollenizer for Barcelona. White Aveline. This, used with the DuChilly, considered best varieties for planting with Barcelona for pollenizer. First Grade. 3 to 4 feet. Each 70c. 10 for $6.00. 2 to 3 feet. Each 60c. 10 for $5.00. Prices packed ready for shipment. Add for postage or freight.

GRAFTED WALNUTS (Soft Shelled). We offer a splendid strain, grafted on 4-year California Black Walnuts. Sturdy, thrifty trees with big, fibrous roots. The best to plant. Comes to bearing much younger than seedling walnuts. Can be shipped by express or truck. First Grade. 3 to 4 feet. Each $1.00. 10 for $9.00. 4 to 5 feet. Each $1.50. 10 for $14.00. 6 to 8 feet. Each $2.00. 10 for $18.00. Prices packed ready for shipment. Add for postage or freigh.t.

Annual Flower Plants

We list these plants under their general classification, for variety desired please consult the write-ups for each, under flower seeds. If no variety is stated, we will send mixed colors. Prices on all plants, with the exception of Pansies are: 50c per dozen, postpaid.

Asters	Clarkia
Alyssum	Cosmos
Ageratum	Godetia
Calendula	Larkspur
Lobelia (dwarf and trailing)	
Mignonette	Salpiglossis
Marigold	Scabiosa
Petunia	Stocks
Phlox	Snapdragons
Portulaca	Verbena
Salvia	Zinnia

Pansies ($1.00 per doz.)

Geraniums

SINGLE GERANIUMS

20c each; $2.00 dozen. Postpaid

Single Geraniums are probably the most popular bedding plants of the time. Their free growth and continuous flowering proclivities serve to keep them always in the front rank. Beds of one color have been very popular of late, and, indeed, such are hard to beat for fine display.

ALBION. Beautiful free flowering white variety, as pure in color as driven snow. Always in bloom.

JACQUERIE. Rich, vivid crimson; immense trusses. The best of the dark geraniums for bedding as it blooms freely, stands the sun well and is a rarely beautiful flower.

MAXINE KAVOLEVSKI. Fine large trusses of orange-scarlet flowers. The nearest approach to yellow in Geraniums.

MILDRED RIVAL. Pure rose-pink with conspicuous white blotch on the upper petals; flowers beautifully formed and the largest of its color.

MRS. A. BLANC. Rich salmon color, shaded to peach. A fine bedding Geranium.

MRS. E. G. HILL. Very large trusses of single florets; color, clear salmon, with a white center; one of the finest and most distinctive varieties.

IVY-LEAVED OR TRAILING

20c each; set of any 4 for 75c. Postpaid.

This class of Geraniums have a trailing or vining habit producing richly colored flowers with quite as much freedom as the upright growing sorts. They are unexcelled for planting in hanging baskets, tubs, and window boxes as well as being suitable for planting in the open ground.

CHARLES TURNER. Deep bright pink flowers of wonderful crispness. Upper petals feathered maroon.

COL. BADEN POWELL. Flowers of the largest size abundantly produced in good sized trusses. Color pearl-white shaded with apple blossom. Dark blotches on upper petals.

GARDEN GLORY. Bright scarlet suffused with rose. Upper petals veined with crimson.

MADAME THIBANT. Lovely soft pink flowers; upper petals feathered with crimson-maroon. Undulated florets, in large trusses. Luxuriant waxy foliage.

DOUBLE GERANIUMS

20c each; $2.00 dozen. Postpaid.

Like the single Geraniums, these also make admirable bedding plants.

ALPHONE RICARD. One of the most famous double scarlet bedding varieties. Flowers of immense size and very brilliant in color.

BEAUTE POITEVINE. Most popular salmon-pink bedding varieties, a wealth of blooms all season.

EDMOND BLANC. Rich purple-violet flowers borne in great freedom. Distinct and beautiful.

FIAT. Bright salmon with flesh colored shadings. Immense trusses. Always in bloom.

MADAME RECAMIER. Snowy white flowers in large trusses produced in great profusion. Strong, vigorous grower.

S. A. NUTT. The best of the rich, dark crimson varieties; trusses massive and lasting. The most popular sort for bedding all over the country.

New Carnations

20c each. Set of any 6 for $1.00. Postpaid.

BELLE WASHBURN. Flowers very large and massive with finely fringed petals. Strong non-bursting calyx. Stems stout and wiry, holding the flower erect, color rich dazzling scarlet.

EARLY ROSE. Delicate flesh pink of exquisite shade. Finely formed, nicely fringed and very fragrant.

HARVESTER. Finely formed pure white flowers produced on wiry stems. The most popular white.

MRS. C. W. WARD. Color soft pure rose; flowers large and well-formed; it is a very healthy and free-blooming.

MATCHLESS. A wonderful new white variety. Large massive flowers on strong upright stems.

SPECTRUM. Very large, finely fringed flowers produced in great freedom. Color bright scarlet and full petaled.

Fuchsias

20c each. Set of any 6 for $1.00. Postpaid.

DOUBLE SORTS

ROSE PHENOMENAL. Largest Fuchsia grown; Phenomenal tuberous petals a bright coral red.

BEAUTY OF EXMOUTH. Rich purple corolla streaked with scarlet at base. Vivid scarlet sepals.

STORM KING. Superb double white variety; tube and sepals bright scarlet.

SINGLE SORTS

ANNE EARLE. Tube and sepals waxy white; corolla single clear carmine.

LORD BYRON. Corolla blackish purple streaked scarlet. Dwarf and free blooming. Sepals scarlet.

TRAILING QUEEN. Of a drooping or trailing habit; a fine plant for hanging baskets, vases, etc; tubes and sepals rosy scarlet, corolla violet-purple.

Chrysanthemums

RARE NEW JAPANESE CHRYSANTHEMUMS

20c each. Set of any 3 for 50c. Postpaid.

GOLDEN GLORY. Bright kolden yellow spheres of fine size and form. Broad waxy petals.

PINK TURNER. Flowers of same size and shape as the popular William Turner, but of a beautiful silvery pink color.

WILLIAM TURNER. Immense globe shaped flowers of snowy whiteness. Notorious for the size of its blooms and its general satisfactory performance as a cut flower variety.

YELLOW TURNER. Great globes of primrose-yellow, otherwise identical with the popular William Turner. Does well in the garden.

EARLY JAPANESE CHRYSANTHEMUMS

20c each. Set of any 6 for $1.00. Postpaid.

BETSY ROSS. Globe-shaped blooms of grand size. Color pure snow-white without the least shading.

BRONZE QUEEN. Rich golden bronze color shaded with gold. Strong growing and very free.

CHRYSOLORA. Large incurved golden yellow flowers produced freely on strong rank growth.

EARLY FROST. Pure snowy white flowers, the inner petals incurving and outer ones reflexing into a fine shaped bloom.

OCONTO. Rank in growth, free in bloom, flowering in early October this fine white variety is very popular.

W. H. WAITE. Deep bronze shaded with gold. Of finest incurved form and splendid size. Grown extensively by florists for cutting.

HARDY POMPON CHRYSANTHEMUMS

This small or button class of Chrysanthemums is becoming very popular for garden culture and are greatly admired for their graceful little blooms in a cut state. These sorts are perfectly hardy and will flower profusely in the garden with less care than the larger flowered varieties. 20c each. Set of any 6 for $1.00. Postpaid.

FRED PEELE. Orange with bronze eye. Extra good.

NUGGETS. Bright yellow flowers of small size in large sprays.

IRENE. Pure white button shaped flowers on upright wiry stems. Does finely in open ground.

JULIA LA GRAVERS. Rich velvety crimson flowers in great profusion late in the season.

AUTUMN GLINTS. All the shades of Autumn foliage in this beautiful flower.

CAPT. COOK. Pink. Double large button type.

ENCHANTING KOREAN HYBRID CHRYSANTHEMUMS

25c each; $2.50 dozen. Postpaid.

CERES. Lovely combination of old gold, chamois-yellow, and soft coppery bronze. The mature flower petals appear as if dusted with gold.

DAPHNE. An exquisite blending of daphne-pink, with an underlying sheen of lilac-rose, enhanced with prominent golden stamens in the center. Flowers carried in graceful sprays, are especially frost-resistant.

LOUISE SCHLING. A very effective new single red variety with flowers over three inches in diameter.

MERCURY. The opening flower is oxblood-red, changing to coppery bronze, and finally to an exquisite blend of old rose and salmon which is retained long after the flower matures.

Lantanas

15c each. Postpaid.

AMEIL. Richly colored sort with umbels of little floret orange-red on the outer edge and golden yellow in the center. Covered all summer with its brilliant flowers.

COUNTESS BIENCOURT. Bright rose-pink, each floret centered with primrose-yellow. Each floret with orange-colored throat.

French Cannas

For a brilliant show all summer long, nothing can excel the new French Cannas. Easiest culture, growing finely in any ordinary garden soil and producing quantities of immense spikes of bright colored flowers until frost. Dig the roots and store like Dahlias. Each 20c. Set of any 6 for $1.00. Postpaid.

KING HUMBERT. Immense spikes of bloom of bright orange-scarlet streaked with crimson.

HUNGARIA. A great variety with beautiful clear rose flowers. Through old, still one of the most desirable.

GLADIOFLORA. Orange-pink with dashes of golden yellow on each petal. Quite distinct from all other sorts.

NOKOMIS. Vivid crimson flowers with silky sheen on the petals. Handsome bronze colored foliage. Grows four feet high.

THE AMBASSADOR. Brilliant cherry red flowers in magnificent trusses. The bronze leaved President.

THE PRESIDENT. Immense trusses of giant crimson-scarlet flowers on heavy stalks. The finest of all Cannas.

WYOMING. Immense spikes of orange colored flowers. Bronzy purple foliage. A giant in growth.

Begonias

FLOWERING BEGONIAS

15c each. Set of any three for 40c. Postpaid.

The most satisfactory plants for house culture obtainable. Of easiest culture their waxy flowers produced in much profusion together with their handsome foliage make them most desirable subjects for the window gardens.

ALBA PICTA. Dark green leaves heavily dotted with white. Panicles of white flowers. Of bushy growth.

ARGENTEA GUTTATA. Handsome erect growing; wine-colored leaves with silvery white spots. Cluster of pure white flowers.

SANDERSONI. Dark green leaves clothing upright branches bearing bright scarlet flowers in drooping clusters.

PICTA ROSEA. Waxy green leaves with silvery white spots. Racemes of pretty pink flowers.

REX BEGONIAS

25c each. Three for 65c. Postpaid.

They are favorite because of their beautiful leaves, variously marked with spots, colored bands, and metalic shadings. Mixed colors.

TUBEROUS BEGONIAS

Blooming continually throughout the summer, the flowers often being over six inches in diameter, and rival in color the most brilliant Geranium flower. As a bedding plant outdoors, or for pot culture in the house, these Begonias cannot fail to give satisfaction if given partially shaded situation.

Single Flowered Varieties. Five colors; white, pink, yellow, scarlet, and crimson. Each 25c. Set of 5 colors, $1.00. Postpaid.

Double Flowered Varieties. White, pink, yellow and red. Each 25c. Set of 5 colors, $1.00. Postpaid.

Gloxinias

Showy flowering bulbs for the window garden or conservatory. Potted in rich garden loam and placed in a light window they will develop into shapely plants covered with graceful large flowers of velvety texture.

Mixed colors, 25c each. Postpaid.

Tigridias

(Shell Flower)

Mexican bulbs producing showy, large oddly shaped blooms of exotic beauty. Well suited to planting in the mixed border. Handle the same as Gladiolus. 18 inches high; flowering all summer.

PAVONIA GRANDIFLORA. Crimson and yellow shades. Each 10c; Dozen $1.10 Postpaid.

OREGON GROWN ROSES «The World's Best»

Hardy, Two-Year, Field Grown, No. 1 Grade

50c Each, Postpaid; $5.00 Per Dozen, Postpaid

AUTUMN. Most extraordinarily colored rosebud — burnt brown — on strong stems for cutting. Foliage glossy and very dark green and resistant.

BETTY UPRICHARD. Semi-double, salmon-pink flowers stained with copper-pink on the outside.

CALEDONIA. Flowers large, white, full, double, high centered.

CHAS. P. KILHAM. Very double flowers and buds of blazing scarlet-orange, opening to bright orange-pink with fiery center.

DAME EDITH HELEN. Pointed buds which open slowly to large blooms of brilliant pink. Very fragrant.

E. G. HILL. The most unfading of all red roses. Long lasting when cut. Blooms produced singly on long strong stems.

EDITH NELLIE PERKINS. Long pointed buds on long stems open into perfect flowers of orange-cerise outside and inside of salmon overspread gold. Grows vigorously and blooms freely.

ETOILE DE HOLLANDE. Finest dark red rose for general purposes.

GOLDEN DAWN. Bud rich straw yellow, flushed old-rose; flower very double, sunflower-yellow, passing to lemon-yellow with age.

HADLEY. Large flowers of an intense rich dazzling crimson-scarlet shading to velvety crimson. Very attractive, well shaped blooms.

JOANNA HILL. Very double bloom with Indian-yellow center surrounded by gold-buff petals.

K. A. VCTORIA. Pearly white, tinted with lemon in center.

LADY MARGARET STEWART. Copper-orange buds, opening to bright golden yellow flowers.

MME. JULES BOUCHE. White, lightly tinted with pink in the center.

MME. BUTTERFLY. A brilliant pink suffused apricot and gold. Very sweet-scented.

MARGARET McGREDY. Brilliant red petals on hinges of deep gold. Buds upright. Seldom out of bloom. Upright plant, very hardy.

McGREDY'S SCARLET. Large flowers are brilliant scarlet with orange base and the upper portions of the petals are lightly washed crimson.

MRS. HENRY BOWLES. Very large, double, lasting blooms of rosy pink shaded salmon on long, strong stems.

MRS. PIERRE S. DU PONT. Buds are reddish gold, opening into beautiful flowers.

MME. ED. HERRIOTT. Original of all the bright orange-flame varieties.

MRS. E. P. THOM. Fine buds open into perfectly shaped flowers of rich yellow.

PRESIDENT HOOVER. Combines many shades of cerise-pink, flame, scarlet, and yellow. Long, beautifully formed buds and a rich fragrance. Bush is exceptionally fine.

TALISMAN. Fragrant bloom of glowing golden-yellow outside, and stained with copper-red and orange-rose on the inside of the petal.

VILLE DE PARIS. Buds of bright yellow which open into fadeless double blooms.

Baby Roses

These Baby Roses (Polyantha grow everywhere and require very little care. They are especially fine in solid beds and for borders. Also ideal for cemetery planting. Constantly in bloom from early summer until freezing. If you think you cannot grow roses, plant some of these. All will bloom this summer.

CECILE BRUMMER. The Sweetheart Rose. Lovely light pink. Grows 18 inches tall.

RED POLYANTHA

WHITE POLYANTHA

ORANGE POLYANTHA

Selected Climbing Roses

AMERICAN BEAUTY. Rich, rosy, deep pink flowers, about 3 inches in size, which are produced in great abundance.

GARDENIA. Yellow Climbing.

HADLEY. Crimson Red.

K. A. VICTORIA. A beautiful creamy white.

PAUL'S SCARLET CLIMBER. Most popular of all climbing Roses. Vivid scarlet of large size, produced in cluster of from 3 to 20 flowers on long, strong stems.

NATIONAL EEZY WEAR
Home Utility Gloves
Soft as kid yet durable, dirt proof, washable.
75c a pair

New Patented Roses

Prices as noted.

COUNTESS VANDALL. Plant Pat. No. 38. This beautiful rose has proved itself one of the finest ever created. The long pointed buds, its distinctive shadings of coppery bronze suffused with soft gold and its wonderful form will win your instant praise. $1.00.

ECLIPSE. The international sensation of the year. Long, streamlined bud enhanced by ornamental sepals of rich gold without shading. $1.25.

FEU PERNET-DUCHER. Lovely yellow rose. Blooms have from 80 to 100 petals of radiant sunshine yellow. $1.00.

R. M. S. QUEEN MARY. Plant Patent 249. Salmon-pink. A rose of charming color and form that blooms almost continuously and produces its long-lasting flowers on strong, erect stems. The long buds open to lovely blooms of salmon-pink, suffused with orange. $1.50.

STERLING. A striking pink in color, delicately shaded into a yellow base. The bud is much longer than the average and pointed. A well-formed flower. Plant Pat. No. 21, originated by E. G. Hill. $1.25.

TEXAS CENTENNIAL. Bud is long-pointed, opening into a large moderately fragrant flower carried on a long-strong stem. Open flower is nopal-red, with a dainty shade of gold; center of the flower lighter red, toning to dark pink as the gloom ages. 75c.

WILL ROGERS. This Rose was named in honor of our late Will Rogers. It is a deep velvet crimson-maroon, very double and free bloomer. Roots are strong and vigorous with dark green foliage. Plant Pat. No. 256, originated by Howard and Smith. $1.00.

ACME
Kopper Queen
•
Control mildew, leaf spot and black spot on roses bushes, flowers and many other foilage.
8 oz. 35c

Leading Perennial, Rock and Border Plants

ALYSSUM SAXATILE FL. PL. Double flowers which accentuate the richness of the bright golden yellow color. 25c each prepaid.

JAPANESE ANEMONIES

ALBA. Large snow white flowers of graceful form.

QUEEN CHARLOTTE. Very large, semi-double, delicate pink blooms.

RUBRA. Only 15 to 18 in. high. A semi-double rosy red.

WHIRLWIND. Large semidouble white. Aany of the above: 30c each; $2.75 per doz.

AQUILEGIA — Columbine

LONG-SPURRED HYBRIDS. A superb large long-spurred type in tones of cream, pink, lavender, white, red, etc. They are supplied in mixture only.

ARABIS—Rock Cress

ALPINA. Dense masses of long-lasting pure white flowers. Nice for cutting. 25c each; $2.50 per doz.;

BELLIS—English Daisy

PERENNIS. Improved double flowering in white and pink. 25c each; $2.50 per doz.

COREOPSIS

LANCEOLATA GRANDIFLORA 2 ft. A popular hardy plant. Graceful flowers of rich golden yellow. Fine for cutting. Blooms all summer. 25c each $2.50 per doz.

DELPHINIUM—Hardy Larkspur

DELUXE HYBRIDS

Unquestionably the finest mixed hybrids. Of vigorous habit and large flowering.

BELLADONNA IMPROVED. — Its clear turquoise blue is not equaled in delicate beauty by any other flower.

BELLAMOSUM. Has the same form, as the light blue Belladonna, but the flowers are rich deep blue.

Any of the above: 25c each; $2.50 per doz.

GEUM CHILOENSE—Avens

LADY STRATHEDEN. Large double rich golden yellow.

MRS. BRADSHAW. Large double brilliant scarlet.

Either variety: 30c each; $3.00 per dozen.

DOUBLE HOLLYHOCKS

Elegant large double blooms of exquisite texture.

Double Red	Double Maroon
Double Yellow	Double Rose
Double White	Double Mixed

25c each; $2.50 per doz.

PYRETHRUM HYBRIDUM

Grand old-fashioned perennials, easy to grow in well-drained soil and full sun. 1½ to 2 feet. June-July. We offer choicest mixed colors. 25c each; $2.50 per doz.

SWEET WILLIAM—

NEWPORT PINK. A lovely salmon or Watermelon pink.

PURE WHITE. Very large individual flowers and trusses.

SCARLET BEAUTY. Rich deep scarlet; very effective.

MIXED. Contains all colors.

Any of the above: 25c each; $2.50 per doz.

TRITOMAS

PFITZERI (Everblooming Flame Flame). The early and continuous blooming qualities of this variety make it highly effective whether planted singly or in masses. Rich orange-scarlet spikes. 30c each; $2.75 per doz.

Evergreen Shrubs

ABELIA (Grandiflora). Small, glossy leaves and tubular-shaped flowers of a blush-pink clor. Shipping size 15 inches. $1.00 each, f.o.b. Portland, Ore. Add for postage or freight.

ACUBA (Japanes Laurel). **Japonica Variegated.** Yellow spotted leaves. **Japonica Green.** Dark, glossy green leaves. Shiping size 12-18 inches. $1.00 each, f.o.b. Portland, Ore. Add for postage or freight.

AZALEA. **Crimson.** Loaded in early spring with mases of scarlet flowers. Thrive best in cool, moist situation. Excellent for massing or in front of other shrubs. Shipping size 6-8 inches. Small plants each 75c, f.o.b. Portland, Ore. Add for postage or freight.

DAPHNE (Japan) **Pink Daphne.** Blooms early spring. Shipping size 12-15 inches. Each $1.50, f.o.b. Portland, Ore. Add for postage or freight.

CAMELIA (China and Japan). Small trees with shining waxy leaves and flowers. Thrive best in partial shade. Shipping size 12-15 inches. Each $1.50 f.o.b. Portland, Ore. Add for postage or freight.

COTONEASTER (C. Franchetti: China). Pink flowers, red berries in the fall. Shipping size 12-15 inches. Each 50c. 24 to 30 inches. Each 75c, f.o.b. Portland ,Ore. Add for postage or freight.

C. HORIZONTALIS (Trailing). Nearly deciduous. Leaves small, turn red in winter. Berries red, stay all winter. Excellent for terrace; hardy. Each 75c, f.o.b. Portland, Ore. Add for postage or freight.

LAURUSTINUS. Dark green foliage. Small, white flowers. Very hardy. Shipping size 15-18 inches. Each $1.00, f.o.b. Portland, Ore. Add for postage or freight.

HEATHER (Irish Belle). Purple, bell-shaped bloom in July or August. 12 to 18 inches. Each 75c, f.o.b. Portland, Ore. Add for postage or freight.

HEATHER (Mediterranean. Pink, bell-shaped bloom in fall and winter. 10 to 12 inches. Each 75c, f.o.b. Portland, Ore. Add for postage or freight.

PYRACANTHA (Lalandi). Sturdy, bushy shrubs; orange berries. 18-24 inches. Each 75c, f.o.b. Portland, Ore. Add for postage or freight.

Coccinea. Red Berries. Very robust type. 18-24 inches. Each 75c, f.o.b. Portland, Ore. Add for postage or freight.

ENGLISH HOLLY (Grafted). Shiny, spiny, dark green leaves. Bright red berries. Compact bush. 12-15 inches. Each $1.50, f.o.b. Portland, Ore. Add for postage or freight.

Hedge Plants

BARBERRY (Japanese Thunberg's). Arching growth; yellow flowers; red berries; foliage has beautiful coloring in fall. 18-24 ins. Each 40c. Dozen $4.00, f.o.b. Portland, Ore. Add for postage or freight.

BARBERRY (Red Leaved). Foliage is a rich, lustrous, bronzy red at all times. In fall foliage becomes orange, scarlet and red shades with scarlet berries. Should be planted in full exposure to sun. 15-18 inches. Each 75c, f.o.b. Portland, Ore. Add for postage or freight.

BARBERRY (Wilsoni). Dwarf. Has glossy green leaves, long spines, yellow flowers, red berries. 12 to 15 inches. Each 75c, f.o.b. Portland, Ore. Add for postage or freight.

BOXWOOD. Small leaves of dense and compact growth. 8 to 12 inches. Each 30c; dozen $3.00, f.o.b. Portland, Ore. Add for postage or freight.

LAUREL. English (Cerasus). Growth shrub-like, with broad dark green leaves. Two feet apart for dense hedge. Shipping size 12 inches. Each 30c; dozen $3.00, f.o.b. Portland, Ore. Add for postage or freight.

PRIVIT. California. Our best plant for hedges. Plant in double row two feet apart, 6 inches between plants. Shipping size 24-30 inches. Ten for $1.00. Per hundred $7.50, f.o.b. Portland, Ore. Add for postage or freight.

PRIVIT. English (Hardy). Leaves smaller. Shipping size 24-30 inches. Ten for $1.00. Per hundred $7.50, f.o.b. Portland, Ore. Add for postage or freight.

Vines and Creepers

CLEMATIS (Jackmanii.) Large purple flowers; requires rich, deep soil; plenty of water; perfect drainage; sunny position. Each $1.00. Postpaid.

CLEMATIS (Mme. Edw. Andre). Red flowering. Each $1.00. Postpaid

CLEMATIS (Paniculata). White Flowering. Each 75c. Postpaid.

HONEYSUCKLE (Hall's Japanese). Vigorous grower; white flowers changing to yellow. Blooms June to August. Each 75c. Postpaid.

IVY (Boston). Fine for brick or stone wall; quick growing. Each 75c. Postpaid.

IVY (English). Evergreen shrubby vine; large, dark green leaves. Each 75c. Postpaid.

JASMINE. Splendid for sheltered places. Pink or white flowers. Each 75c. Postpaid.

VIRGINIA CREEPER. Vigorous grower; large leaves turn bright colors in fall. Each 75c. Postpaid.

WISTARIA (Sinesis(. Purple or white flowers in long, drooping racemes. Each 75c. Postpaid. Grafted vines. Each $1.50. Postpaid.

Deciduous Shrubs

DELIVERIES MADE FROM NOVEMBER UNTIL MAY

ALMOND (Prunus). Pink flowering. Dwarf shrub. Shipping size 18-24 inches. Each 75c. Postpaid.

ALTHEA (Rose of Sharon). Late summer blooming, colors pink, white or red. Shipping size 30-36 inches. Each 80c. Postpaid.

AZALEA (A. Mollis). In early spring is covered with gorgeous flowers before the leaves appear. Colors mostly orange, yellow and salmon pink. Shipping size 12-18 inches. Each $1.50. Postpaid.

BUDDLEYA (Magnifica: Summer Lilac). Slender branches that terminate in flowers of lavender blue. Shipping size 24-30 inches. Each 75c. Postpaid.

CALYCANTHUS (Floridus: Sweet-scented Shrub). Double, dark crimson flowers, very fragrant and blooms all season. Shipping size 15-18 inches Each 75c. Postpaid.

DEUTZIA (Gacilis). Low-growing, slender branches, covered with a profusion of flowers. White with blush of pink in the bud. Shipping size 12-15 inches. Each 75c. Postpaid.

DEUTZIA (Lemoinei). Flowers in large cluster of pure white. Grows to 6 feet high. Shipping size 24-30 inches. Each 75c. Postpaid.

FORSYTHIA (Golden Bell). Blooms in dense masses of Golden-yellow flowers in early spring. Shipping size 30-36 inches. Each 75c. Postpaid.

HONEYSUCKLE (Bush: Pink Tartarian). Bushy, upright growth. Flowers freely. Red and orange berries stay on until fall. Shipping size 18-24 inches. Each 75c. Postpaid.

HYDRANGEA (Japanese Otaksa) Blue and pink. Shipping size 12-18 inches. Each 75c. Postpaid.

TREE HYDRANGEA (Paniculate Grandiflora). Pure white, afterwards changing to pink. Shipping size 24-30 inches. Each $1.00. Postpaid.

LILAC (Syringa Vulgaria). Common. Single, white or purple. Shipping size 30-36 inches. Each 75c. Postpaid. Grafted. Double or single, white or purple. Shipping size 2-3 feet. Each $1.50. Postpaid.

MOCK ORANGES (Syringa). White, creamy flowers, very fragrant. Shipping size 30-36 inches. Each 75c. Postpaid.

QUINCE (Japanese Flowering). Scarlet flowers. Shipping size 18-24 inches. Each 75c. Postpaid.

SPIREA (Bridal Wreath). Blooms during May and June; long sprays of large white flowers. Very hardy and ornamental year round. 60c. Postpaid.

SPIREA (Crimson). Deep red flowers. Blooming all summer. Shipping size 18-24 inches. Each 60c. Postpaid.

SPIREA (Thunbergii). Shipping size 18-24 inches. Each 60c. Postpaid.

SPIREA (Van Houetti's). Flowers white in clusters. May. Shipping size 24-30 inches. Each 60c. Postpaid.

SNOWBALL. Flowers globular, pure white, in May. Shipping size 18-24 inches. Each 60c. Postpaid.

TAMARIX (African). A tall slender irregular shrub with feathery foliage and small delicate pink flowers. 3 to 4 feet high. $1.00. Postpaid.

WEIGELIA. Free-flowering shrub. Shipping size 24-30 inches. Pink or varigated. Each 75c. Postpaid.

Deciduous Trees

SHADE and ORNAMENTAL

BECHTEL'S FLOWERING CRAB. Large, double, fragrant, pinkish, rose-like flowers, covering entire tree. Apple-like foliage turns bronze in fall. Forms a rounded compact, dwarf tree. $1.00, f.o.b. Portland, Ore. Add for postage or freight.

BIRCH. White, common, 5-6 feet. Each $1.00, f.o.b. Portland, Ore. Add for postage or freight.

BIRCH. Cut Leaf (B. Alba). Silvery-white bark, slender, drooping branches. 5-6 feet. Each $1.25, f.o.b. Portland, Ore. Add for postage or freight.

CATALPA. Western. Splendid trees. White flowers, bright foliage. 5-6 feet. Each $1.25, f.o.b. Portland, Ore. Add for postage or freight.

CATALPA BUNGEI. Dwarf, dense, round-headed variety. Much in outline likee the popular Bay trees, but is hardy and better adapted for the garden, 5-6 feet. Each $3.00, f.o.b. Portland, Ore. Add for postage or freight.

CHERRY (Japanese Rose-flowered). Pendulous cluster of small rose-pink flowers. Effective at ends of vistas or with trellis support. Early bloomer. Two year trees, 5 to 6 feet, each $2.00. One year trees, 4 to 5 feet, each $1.50, f.o.b. Portland, Ore. Add for postage or freight.

DOGWOOD (Pacific). Creamy white flowers; grows in any soil or climate. Vigorous growth; leaves highly colored in fall. 5 to 6 feet. Each $1.50, f.o.b. Portland, Ore. Add for postage or freight.

ELM (American). Tall, wide spreading tree, light gray trunk. 6 to 8 feet. Each $1.50. 5 to 6 feet. Each $1.00, f.o.b. Portland, Ore. Add for postage or freight.

HAWTHORNE. Paul's Double Scarlet. 5-6 feet. Each $1.25. 6-8 feet. Each $1.50, f.o.b. Portland, Ore. Add for postage or freight.

HORSE CHESTNUT (A. Hippocastanum). Tall; large divided leaves; long panicles of fragrant, snowy-white flowers. Good shade tree. 3 to 6 feet. Each $1.50,f.o.b. Portland, Ore. Add for postage or freight.

MAPLE. Norway. 5-6 feet. Each $1.00, f.o.b. Portland, Ore. Add for postage or freight.

MOUNTAIN ASH. Europena. White flowers, red berries. 5 to 6 feet. Each $1.25, f.o.b. Portland, Ore. Add for postage or freight.

OAK (Red Leaved). Tall; stout spreading branches; lobed leaves; beautifully colored. 5 to 6 feet. Each $2.00, f.o.b. Portland, Ore. Add for postage or freight.

PEACH (Flowering). Large, single and double, light, deep red, and cerise and maroon flowers. 3 to 4 feet. Each $1.00, f.o.b. Portland, Ore. Add for postage or freight.

PLUM (Bleireiana). Purple tinted foliage, reddish bronze later. Medium size, semi-double fragrant flowers. Early bloomer. 4 to 6 feet. Each $1.25, f.o.b. Portland, Ore. Add for postage or freight.

PLUM (Thundercloud). Dark purple foliage, pink flowers. 4 to 6 feet. Each $1.00, f.o.b. Portland, Ore. Add for postage or freight.

POPLAR (Carolina). Broad, wide-spreading branches; dark bark; 6 to 8 feet. Each 75c, f.o.b. Portland, Ore. Add for postage or freight.

POPLAR (Lombardy). Straight, narrow, spirelike. 6 to 8 feet. Each 75c, f.o.b. Portland, Ore. Add for postage or freight.

WEEPING WILLOW (Babylon). Long, slender, drooping branches; bright green leaves. 6 to 8 feet. Each $1.00, f.o.b. Portland, Ore. Add for postage or freight.

Late Field Grown Vegetable Plants

No Plants Sent C. O. D.

500 plants will be supplied at the 1000 rate.

EARLY CABBAGE. Grown in the open ground and wintered over. Good, strong, healthy plants ready November 1st to April 15th. Can be shipped anytime weather permits. Early Jersey Wakefield, Big Strain Wakefield, Large Wakefield, All Head Early, Danish Ballhead, Danish Roundhead. Doz. 25c; 3 doz. 50c; 100 @ $1.25; postpaid. E. or F., 100 @ $1.00; 1000 @ $4.00.

LATE CABBAGE. Well hardened plants grown in the open. Ready June 10th to September 15th. Hollander, Danish Roundhead, Glory of Enkhuizen, Danish Ballhead, All Head Early, Copenhagen Market, Red Cabbage, Savoy—Doz. 20c; 3 doz. 50c; 100 @ $1.00; postpaid. E. or F., 100 @ 75c; 1000 @ $3.25; 5000 @ $3.00 per 1000.

LATE CAULIFLOWER. Grown in the open. Ready June 20th to August 15th. Veitch's Autumn Giant, All Seasons, Green Broccoli, St. Valentine Broccoli.—Doz. 25c; 3 doz. 60c; 100 @ $1.50; potpaid. E. or F., 100 @ $1.25; 1000 @ $4.50.

BRUSSELS SPROUTS. Ready June 20th to August 15th. Prices same as late cabbage.

KALE PLANTS. Grown in open. Ready June 20 to August 15th. Tall Scotch Curled, Dwarf German, Jersey Kale, Georgia Collards, Select 1000 Headed Kale. Same price as late cabbage plants. Ready same season.

TOMATO PLANTS. Frame or greenhouse grown. Ready April 25th to June 15th. Bonny Best, the Pritchard, Break O'Day, Rutger's, Pepper Tomato. Doz. 50c; 3 doz. $1.00; 100 @ $2.50; postpaid. For quantity, please write.

CELERY. Utah Jumbo Winter and Golden Self Blanching — Field grown. Doz. 25c; 3 doz. 60c; 100 @ $1.50. E. or F., $6.00 per 1000. Ready June 1st to August 1st.

Gladiolus

TEN BEST CUT FLOWER VARIETIES

All Blooming Size 1¼ inches. Priced per Dozen Postpaid.

AIDA. A very large dark blue, extra fine in this color. Dozen 35c. 2.50 per 100.

CARMEN SYLVA. A tall very good white with no throat markings. Dozen 25c. 2.50 per 100.

DR. F. E. BENNETT. Large, brilwiant lame red. The very best in this color. Dozen 40c. 2.75 per 100.

EVELYN KIRTLAND. Tall pink with darker throat. Dozen 35c. 2.50 per 100.

GLORIANA. Finest pure salmon with yellow throat. Dozen 35c. 2.50 per 100.

GOLDEN DREAM. Large late pure deep yellow. A desirable variety for every collection. Dozen 35c. 2.50 per 100.

LOS ANGELES. Light pink with fine lines of deep rose marking the throat. Good forcer. Dozen 35c. 2.50 per 100.

PFITZER'S TRIUMPH. Immense bright orange-scarlet florets on fine stalks. Dozen 35c. 2.50 per 100.

PRIMROSE PRINCESS. Large primrose yellow. Very good and a fine cut flowers. Doz. 35c. $2.50 per 100.

CHAS. DICKENS. Bright radiant purple. Tall and lovely. Dozen 40c. 2.75 per 100.

NEW VARIETIES

ALBATROS. A very fine pure white of large size. 4 for 20c.

BLUE TRIUMPHATOR. Pale light blue of large size and tall spike. 3 for 25c.

COMMANDER KOEHL. A beautiful large dark scarlet, a most attractive variety. 3 for 20c.

CORONATION. Soft light salmon, shading to cream and creamy yellow deep in throat. 3 for 20c.

CORYPHEE. A lovely soft rose pink with many open blooms. 3 for 20c.

DEBONAIR. Salmon pink with deep cream throat. Tall and lovely. 3 for 20c.

EMILE AUBRUN. A very striking smoky orange and rose, tall spike and many open at a time. 3 for 20c

IRENE. Salmon rose, lighter throat. Rich and lovely 3 for 20c.

JUBILEE. Huge lavender pink. Always admired. 3 for 20c.

MAMMOTH WHITE. A very large pure white with heavy foliage. 3 for 20c.

MILDRED LOUISE. Beautiful clear strawberry pink, blending to pinard yellow in throat. 3 for 20c.

MAROCCO. Large, very deep red, almost black. A good novelty. 3 for 25c.

MOTHER MACHREE. Unusual tall lavender, orange overcast with gray. 3 for 25c.

OUR SELECTION. Deep salmon tinged purple, lavender blotched throat, many open. 3 for 20c.

PELEGRINA. The newest of Pfitzer's dark blues and by many considered the best. 3 for 20c.

ROSE MARIE PFITZER. Ruffled white tinted pink. A peach and cream color. 2 for 15c.

SENORITA. Clear wide open orange, shading to salmon, lower petals bright orange yellow. carmine tongue and penciling. 3 for 20c.

SMILING MAESTRO. Large deep salmon rose flecked brown. Very popular and showy. 3 for 25c.

TOBERSUN. Pure deep yellow. Tall with five or more open at a time. 3 for 20c.

WASAGA. Very beautiful soft buff. 3 for 20c.

MIXED GLADIOLUS. 30c per dozen, 100 for $2.10 Postpaid.

Dahlias

DECORATIVE DAHLIAS

AMUN RA, F. D. Gigantic flowers on long stems; copper and orange with gold and reddish bronze. 35c ea.

ARCUTURUS, F. D. Large scarlet red suffused deep yellow, with yellow reverse. 50c each.

BOB BARKER, F. D. Bright rose pink with gold base. Long erect stems. 35c each.

CONGRESSMAN WOLVERTON. I. D. Bright salmon pink, fine stems. 35c each.

DIXIE RAVENSCROFT. I. D. Bright flame color with gold reverse. 35c each.

DOROTHY STONE, F. D. Giant flowers of a deep rose pink. Good stems. 35c each.

FRANK MILLER, F. D. Picric yellow growing to a large size on long straight stems. 35c each.

GRACE CURLING, I. D. Lilac with a pink tint, shading to white at base. 35c each.

J. K. ALEXANDER, JR., I. D. Immense crimson red, yellow fleck in center. Free flowering. 75c each.

LA ESTRELLA, F. D. Deep burnt orange. Long, erect stems. 35c each.

MARJORIE COLE, I. D. Good bi-color; orange-yellow, tipped white. Free blooming. 35c each.

META SCAMMELL, F. D. Center pale amaranth pink shading to deeper pink at tips, long stems. 35c each.

MRS. ELMER O. DREW, F. D. Large flowers of rich, purplish-maroon 35c each.

MRS. GEO. LE BOUTILLIER, I. D. Rich velvety carmine. Immense blooms, strong stems. 75c each.

SALBACH'S WHITE, F. D. Pure white, Good cut lower. 35c each.

CACTUS and HYBRID CACTUS DAHLIAS

AMBASSADOR, S. C. Giant, soft bright yellow, deepening to orange center; strong, erect stems. 50c each.

BOB PLEUSE, S. C. Giant wine maroon, tipped and marked white; fine stems. 50c each.

CHEMAR'S MASTERPEICE, S. C. Giant flowers on good stems; rich orchid pink. 35c each.

EDNA FERBER, S. C. Coral shading to gold, glistens with golden sheen. 50c each.

JEAN TRIMBEE, S. C. Giant flowers of rich purple, extra fine stems. 50c each.

ROYAL VELVET, S. C. Large deep red, good stems. 50c each.

RONDO. Very large, light lemon yellow. Splendid stems. 35c each.

VELVET, S. C. Darkest velvet red, large and highly recommended. 35c each.

PEONY FLOWERED DAHLIAS

CITY OF PORTLAND (Gill). Giant canary yellow on long, erect stems. One of the finest. 35c each.

DR. GEORGE SKINNER. Large flowers on fine stems; deep red heavily tipped white. 35c each.

GOLD BAND (Gill). Brilliant scarlet and gold, many of the petals have a gold stripe in center. 35c ea.

OREGON SUNSET. Gigantic blooms; golden yellow, suffused bronzy crimson; strong stems. 35c each.

SUPREME (Gill). Giant blooms on long, erect stems. Clear lavender pink. 35c each.

THE ORIOLE. A giant; a striking combination of burnt orange, red and yellow, often tipped white. 35c each.

POMPONS

BANTAM. BRIGHT scarlet. Fine stems. 25c each.

DEE DEE. Small lilac, lavender. Good stems. 25c each.

EDITH MUELLER. Beautiful rose red blended with rich yellow. 25c each.

GLOW. Light old rose or coral. Beautiful neat flowers on perfect stems. 25c each.
on edge. 25c each.

HONEY. Pale yellow, suffused red

JOE PETTE. The outstanding pure white pompon. Small perfect blooms on long, erect stems. 25c each.

YELLOW GEM. Pure yellow. Small, perfect flowers. 25c each.

BALL OR SHOW TYPE

AMERICAN BEAUTY. Large blooms of gorgeous wine crimson; a splendid sort. 25c each.

BONNIE BLUE. Dark lavender blue. Perfect stems. 35c each.

GEN. MILES. Large showy dahlia; light violet pink; striped dark magenta; strong stems. 35c each.

ROSEBUD. White, effectively effectively edged with rose pink; long, erect stems; extra good. 25c each.

NAPHTHALENE FLAKES PROTECT GARDEN AND FARM CROPS!

Soil pests, such as Wireworms, Moles, Maggots and Slugs have been robbing Northwest gardeners of thousands of dollars in crops every year. This can easily be checked by using Diamond Quality Naphthalene Flakes.

Federal government and state experimental farms highly recommend Naphthalene Flakes for the control of these pests.

USE WHEN SEEDING

The greatest success is derived from Diamond Quality Naphthalene Flakes if it is worked into the soil at the time of planting seed. It should be applied at the rate of one pound to 40 square feet for general soil pest control, and worked into the soil at least 10 inches deep. The repellent in Naphthalene is the continual gas it gives off while evaporating. This gas is neither harmful to pets or humans.

WITH BULBS

Diamond Quality Naphthalene Flakes are safe and economical in protecting all types of bulbs from soil pests during their growing season, it also offers protection against thrip and fungus diseases during the storing season. For storing bulbs use one ounce of Diamond Quality Naphthalene Flakes to 100 bulbs, place in a paper sack or box and leave for 4 to 8 weeks at a temperature of approximately 70 degrees. The excess Naphthalene should be removed and the bulbs thoroughly aired for one month.

FOR FARM USE

For farm use Naphthalene should be mixed with equal parts of dry earth, sand or fertilizer and distributed over the soil at the rate of 400 pounds of straight Naphthalene to the acre. Cross disced and harrowed in thoroughly and deeply as possible. This is equal to ten pounds to 100 square yards. For killing wire worms the amount of Naphthalene should be doubled. Naphthalene Flakes are sold by all leading seed and garden stores. For further information see your local dealer or write to the Portland Seed Company, Portland, Oregon.

"IT GUARDS YOUR GARDEN"

THE HEART OF EVERY HOME!

A BEAUTIFUL GARDEN

The joy and pride of every American home-owner is a beautiful lawn and garden. Today, the luxury of a weed-free lawn and of flowers with beautiful massive blooms is within the reach of everyone. Diamond Quality Seed plus Vigoro makes gardening success easy.

Vigoro is the complete plant food that supplies every one of the 11 necessary food elements. It is clean, odorless, sanitary and most economical.

Enjoy gardening success! Use Vigoro and Diamond Quality Seed!

Diamond Lawn Seed...

These prices are not postpaid. Please add to cover shipping.

	1 lb.	5 lb.	10 lb.
Diamond Fancy Lawn	$ .60	$2.85	$5.50
Diamond Fancy with Bent	.75	3.60	7.00
Shady Lawn Mixture	.70	3.35	6.50
Kentucky Blue Grass	.45	2.10	3.80
White Clover—Fancy	.65	3.15	6.15
Chewings Fescue	1.00	4.85	9.50
Astoria Bent	1.00	4.85	9.50
Poa Trivialis	.70	3.35	6.50

USE **VIGORO** ON EVERYTHING YOU GROW

1 lb. package	$ .10
5 lb. package	.45
10 lb. package	.70
25 lb. sack	1.40
50 lb. sack	2.30
100 lb. sack	3.50

PORTLAND SEED AND PET STORE

204 Southwest Yamhill Street ★ ATwater 3871